Maslow's Need Hierarchy in the Work Situation

PROEFSCHRIFT

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Introduction

Most contemporary organizational theory, when it does deal with personality, bases its view of man on Maslow’s “hierarchy of needs” theory. I am baffled to discover that little has been done to test the validity of this theory... It would not only be useful, but crucial, to devise more empirical validation of these ideas.

Warren G. Bennis: Changing organisations

The present publication is based on a study aimed at finding support, in the industrial situation, for a theory of human motivation as proposed by A. H. Maslow.

The beginnings of the study were both humble and incidental. It so happened that our first acquaintance with Maslow’s theory coincided with our coming across a set of data in the research literature\(^1\) which seemed to confirm the theory: it occurred to us that these data could easily be explained on the basis of Maslow’s “hierarchy of basic needs”. A subsequent search in the literature yielded results which seemed to strengthen our case, and a formal research project was got under way.

Soon, however, we found ourselves in trouble: a pilot study failed to reproduce the data which initially got us started. By then, however, we had become aware of quite a number of good reasons for going on.

In the first place we had been struck more and more forcibly, as we went along, by the fact that the theory, at least the principal aspect of it, the “hierarchy of basic needs” (first published some 25 years ago) seemed to be generally known, particularly in the industrial situation. It is, of course, not surprising that one comes across the theory in the psychological literature dealing with aspects of the work situation; more to the point is, that we also came across the hierarchy in the management literature, which, however, would not be so remarkable either if it were not for the curious fact that there it was discussed — sometimes quite extensively — without any reference to Maslow being made.

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1. Herzberg et al (1959), at that time relatively new. The non-professional reader will be fully informed about the subject in the course of our narrative.

2. Author’s names, followed by a date and (usually) a page number refer the reader to the bibliography; dates (and pagenumbers) not preceded by a name refer to publications listed therein under “Maslow”.
at all. But the apparently general familiarity with the "basic needs" was really brought home to us when we found them to be included in a talk given by a church minister to a group of industrial apprentices — again without reference to their source.

We may add here that we also discovered the basic needs in other unexpected places: we came across authors — belonging either to a previous generation or to a different discipline altogether, and therefore unaware of Maslow's work — who had hit upon (most of) the same categories of needs that make up Maslow's hierarchy.

Thus it seemed that Maslow's theory was already making headway, especially in industry. It seemed to have some "popular" appeal, which might in itself be indicative of a certain validity.

A second reason for seeking validation of this particular theory in the work situation was, of course, the obvious one that the work situation (still) determines man's motivational life for the greater part of the day. Our study might help to understand that situation better. But not only that; our study might also help to judge the value of the theory in that situation better because it seemed to fit the situation so well. As Roe (1956, p. 31) puts it: "The application of this [i.e. Maslow's] theory to occupational psychology is fairly obvious. In our society there is no single situation which is potentially so capable of giving some satisfaction at all levels of basic needs as the occupation."

The present writer had been impressed for quite some time by the enormous number of reports in the industrial psychological literature on studies which were aimed at describing the work situation in its psychological aspects but which lacked a proper theoretical basis. They formed a third reason for trying to establish the relative merits of Maslow's theory of motivation in this situation. Not only are studies like these often set up without a proper theoretical basis, but they have also generally failed to yield a satisfactory theory, in spite of the efforts of various compilators of such studies who have tried to find common characteristics in their results. Blai (1964, p. 384) puts the matter very clearly: "A systematic review of the literature revealed few studies which concerned themselves with theoretical implications. Most investigations and inquiries were limited to generalizations about the importance or unimportance of wages, or advancement, or job security or personal treatment, without reference

2 Van den Oosterkamp (1962, p. 327), otherwise a well-documented review, and Anon (1967) in the Dutch literature, and Irwin & Langham (1966, pp. 84/85) in the American literature are cases in point.

3 See e.g.: Thomas (1924, p. 4), and Hardy (1967, pp. 79 & 82).

4 "Might be". As it turns out, not all theories having a wide appeal appear to be valid when investigated critically, as the reader will find in the last chapter.
to motivational theory. And yet, from this review of literature, it was evident that there must be an adequate theory of motivation to permit the ordering of the mass of data that has been accumulated in the field of industrial morale (job satisfaction).” Very much the same point is made by Herzberg et al (1959, p. 8).

A fourth reason for our interest in the applicability of the theory to the industrial situation, which reason is directly related to the previous one, is that an advantage of the motivation theory as proposed by Maslow seemed to be that the categories of needs he proposes are categories of basic needs, where “basic” is to be understood in the sense of “characteristic of the whole human species” (1951, p. 257). (Needless to say we shall go into this to some length in our discussion of the theory (1.3)6; the definition of “basic need” will be found to be quite operational).

The use of basic aspects of some sort or other is clearly advantageous, as opposed to the many attempts at describing the psychological aspects of the work situation in terms of more incidental, obvious and pragmatic generalizations such as mentioned above by Blai; therefore, the fundamental character of the categories which Maslow uses and which, as we shall see (1.5), all play an important role in the work situation, seemed to us an important factor towards the ultimate usefulness of our effort.

A fifth reason, again related to its forerunner, is the dynamic relationship between the categories of basic needs (which will be explained in section 1.6); while these categories are more than mere labels under which manifest needs or drives may be grouped, they are also interrelated in a specific fashion. This interrelatedness (the “hierarchy” of basic needs) is a feature which distinguishes Maslow’s theory from other theories of motivation and turns it into a dynamic model; it is this dynamic aspect which makes the theory, as we shall show (in Chapter 4), suitable for testing in a field situation.

The sixth and last, but by no means least reason for our undertaking, which, in turn, again has a bearing on the previous one, is of a different nature. As will be explained in section 1.6.2, the dynamic relationship mentioned above is identified as “psychological growth”. Consequently, Maslow’s later work is concerned with growth and the characteristics of its end-product: psychological health.

The manner in which this later work develops into what Maslow calls “positive psychology”, seems to us of considerable importance to the “condition humaine” in general as well as to industry in times of affluence in particular.

6 Italicized numbers refer to sections of chapters in the present text.
Intr.

Therefore, these later developments of Maslow's work constituted our final reason for undertaking to find practical support for their foundation, the dynamic model of the hierarchy of basic needs.

With regard to these later developments we were once again impressed by a curious fact. Whereas the "hierarchy" seemed to be quite popular (even though few efforts had been made to find practical support for it), we noticed that Maslow's publications after his first main work (1954) seemed to have remained virtually unknown; at least we found practically no references to work of a later date anywhere in the literature.

In order to improve this unfortunate state of affairs, we decided to incorporate a discussion of Maslow's later thinking, as published from 1954 onward, into the present text.

This brings us to the organization of the chapters which follow.

Chapter 1 contains a discussion of the essentials of Maslow's motivation theory of which, as we have mentioned, the "hierarchy of basic needs" is the central feature. Some topics from Maslow's "positive psychology", which is based on this, are discussed in Chapter 2; the two opening chapters form an integrated whole, covering Maslow's work in broad outline between them. Together they make up Part I: "Theory".

Chapters 3 through 9, which make up Part II: "Research", cover the report proper of our investigations. Since we consider the hierarchy of basic needs to be the basis of Maslow's thinking (without which all the rest would come to nought) we have concentrated our study on this aspect of it. Accordingly, Chapters 3 through 9 contain data and discussions pertaining to the hierarchy only; to the extent that this material supports the basis of Maslow's theory which is discussed in Chapter 1, does it give support to the elaborations of it which are set forth in Chapter 2. In order to set the reader straight, Chapter 3 opens with a short recapitulation of the essentials of the hierarchy of basic needs.

Although, as we have just explained, we cover Maslow's theoretical position rather extensively in the next two chapters, it seems useful to give some attention, at this point, to the school of thought with which Maslow is identified in the U.S.A. but with which European readers might be less familiar.

Maslow has been called "the first organizer as well as one of the intellectual leaders of Humanistic Psychology". (Sutich, 1961, p. viii). 6

6 For the benefit of the European reader we add a few familiar names which are generally connected in one way or another with humanistic psychology: Gordon W. Allport, Andreas Angyal, Charlotte Bühler, Erich Fromm, Kurt Goldstein,
Humanistic psychology, as a school of thought, differs from other psychological disciplines, such as behaviourism, psychoanalysis, phenomenological psychology, both in centre of interest and in method.

The concern of humanistic psychology is evident from its name: to study the potentialities of man, the characteristics and the capacities of the psychologically healthy, the psychologically fully grown individual. The humanistic credo, we think, has been poignantly worded by one humanistic psychologist as follows: "If [man] faces the truth without panic [namely, that he is alone in a universe indifferent to his fate, with no power transcending him which can solve his problems for him] he will recognize that there is no meaning to life except the meaning man gives his life by the unfolding of his powers, by living productively". (Fromm, 1947, pp. 44/45). Humanistic psychology is concerned precisely with this: "the unfolding of man's powers".

The reader might object that e.g. psychoanalysis pursues the same aim by helping patients to outgrow (causes of) psychological stunting; humanistic psychology, however, claims that there is a qualitative difference between "non-sickness" and "positive health". It is the characteristics of positive psychological health rather than forms of pathology in which the humanistic psychologist is interested.

Also in keeping with its name is the insistence of humanistic psychology that value-laden subjects which are usually banned from "objective" science (such as love, creativeness, art, beauty, altruism) should be made subjects of scientific study, and that this is, in principle, possible. To try to do so is a duty in accord with the humanistic credo: "I am not only the disinterested and impersonal seeker for pure cold truth for its own sake. I am also very definitely interested and concerned with man's fate, with his ends and goals and with his future. I would like to help improve him and to better his prospects. I hope to help teach him how to be brotherly, cooperative, peaceful, courageous and just. I think science is the best hope for achieving this, and of all the sciences I consider psychology the most important to this end. Indeed I sometimes think that the world will either be saved by psychologists — in the very broadest sense — or else it will not be saved at all." (1955, p. 1/2).

A characteristic feature of humanistic psychology is the insistence on a "holistic" approach as opposed to the causal-mechanistic approach of the natural sciences which, in psychology, has found its most strict application in behaviourism. In order to facilitate the understanding of this approach — in turn essential to the understanding of Maslow's work — we have found it...
helpful to begin Chapter 1 with a comparative discussion of both types of scientific approach.

Professor Maslow's works make exciting reading, but we have found the task of ordering, into one clear line of argument, the rich material which he presents, a difficult one. This is inevitably so because Maslow discusses the field in a holistic manner, relating everything to everything at once. In this way the picture of the "whole" is imprinted upon the mind of the reader very effectively, if only gradually; but that same reader is completely baffled when he sets himself the task of "sorting things out" and putting one thing behind the other within the scope of a couple of chapters.

We have had to tread our way gingerly through a huge mass of interrelated concepts, often leaving out interesting bits because they were tied in with too many other bits and pieces, all equally interesting in themselves. We trust that in doing so we have not lost track of the essence of Maslow's views; on the other hand we know that the very personal eloquence with which he expresses those views certainly has got lost, even though we have tried to retain some of it by making use of quotations abundantly.

We shall feel rewarded for our troubles of giving a concise exposition of Maslow's work, if thereby we succeed in tempting a few readers to sit down with, for instance, "Motivation and personality" (1954), "Eupsychian management" (1965), or "The psychology of science" (1966).

In this connection a few words are in order with respect to the readership circle to which the present monograph directs itself.

Even though the text is essentially a research report preceded by a theoretical exposition, it is aimed at a wider audience than the few specialists who are professionally interested in industrial psychological research or in theories of motivation.

In organizing our text the way we did, we had in mind all those in industry and in organizations in general who hold positions of managerial responsibility or who are concerned with personnel problems in particular; to them, we feel, an effort to apply Maslow's theory to the work situation should be of immediate interest. And to the extent that it is of immediate interest, a report on such an effort should, we feel, also be directly accessible to such individuals. We can see no earthly reason why such reports should be written in such a way that they must first be abstracted by go-betweens before their contents can reach

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8 Also, we skipped certain topics, such as the links of humanistic psychology with phenomenology and with existentialism, because we felt unqualified to do them justice; furthermore we have not, within the scope of the present text, followed Maslow all the way into his "psychology of being".
those who should directly profit from them. Surely the man who works with the results of a scientific study must be able to check how those results were obtained.  

But there is yet another type of reader to which the material which we discuss in this volume — or at least in the first part of it — might appeal. Since the study was begun, and particularly during the more recent period in which the manuscript was in preparation, a critical attitude has been rapidly spreading with regard to the values of Western society in general and with regard to the goals of education, business and industry within that society. The word “self-actualization” has become commonplace practically overnight. Playful creativity is subtly beginning to undermine stern authoritative orderliness and there is a growing tendency to combine personal independence with a genuine concern for society at large. There is a feeling that change is in the air, and activists are discussing the relative merits of the “conflict model” versus the “harmony model” of change.

We feel that with regard to this whole issue, Maslow’s views are of immediate value. We therefore aim at even a larger readership circle than that which comprises those who are professionally interested in the inside problems of business and industry.

Obviously, such an aim creates a few problems for the author who thereby sets himself the task of penning a treatise which is at once satisfactory to the scientist who wants all the details as well as to the relative layman who wishes to get at the essentials as quickly as possible.

These problems we have tried to overcome as best we could, while being well aware of the fact that a compromise seldom completely satisfies all parties concerned.

We find that, though in academic circles this view is not yet being generally subscribed to, it receives gradually more support. G. Allport (1960, p. 350) states: “[social scientists]... have much to learn... about effective means for communicating their results to policy makers.” More recently, such communicating is beginning to be regarded as a duty: “The modern researcher, in his report, [is] responsible to those who have to act on the basis of his research and to all of those who are affected by these measures.” (Wijvekate, 1968, p. 11; transl. by the present author). Recently, the (Dutch) Academic Council concluded in its report on the subject: “The popularization of science is a field which has hitherto been too much neglected by, among others, the universities.” (Academische Raad, 1969, p. II; transl. by the present author).
Part I

Theory
CHAPTER 1

The hierarchy of basic needs

Man is in the position of a painter painting a gigantic canvas. If he is close enough to be able to work, he is too close to see it as a whole. If he stands back to see it as a whole, he is too far away to use his paint-brush. The natural solution for the painter would be to move back and forth as often as possible. But the scientist would feel that such conduct was unscientific. He keeps his nose to the canvas, and creates "theories" to unify his facts. Science begins with facts, proceeds to theory, then returns to the facts to verify or disprove the theory. The scientist has no use for meaning-perception — at least in theory. In fact, any good scientist or mathematician will admit that imagination is as indispensable to the scientist as to the poet; still, one will find no mention of this in books on scientific method.

Colin Wilson: Beyond the outsider

1.1 THE REDUCTIVE-ANALYTIC METHOD IN SCIENCE

From its very beginning in the early Middle Ages up to relatively recently, the characteristic approach of Western science has been causal-mechanistic. The natural sciences are essentially concerned with the how of things; the questions asked are questions of causality, and the answers take the form of causal relationships between the parts of the system which is being studied.

Three things are typical for this manner of looking at the world. In the first place, the method which belongs to a mechanistic approach is "reductive-analytic": a system is studied by analysing the smallest parts to which it can be reduced. Secondly, the causal-mechanistic approach has in general been very effective, as the state of modern technology shows. Finally it should be noted that it is essentially a Western-European affair.¹

As a consequence of the impressive successes of the natural sciences, the reductive-analytic method has eventually tended to become identified with the

¹ "Western European" in this context includes, of course, "North-American".
scientific method *per se*; to be scientific has come to mean: to analyse single facts, to observe these objectively, and to infer relationships between these facts from equally objective observations.

As has frequently been pointed out, the older the science, the further its subject is removed from man. Gradually, the sciences have tended to gravitate towards man himself: psychology is the youngest discipline of a sequence which begun with astronomy. Now the causal-mechanistic manner of looking at the world, and its concomitant method, reductive analysis, the mainstay of the older natural sciences, has given rise to more and more difficulties as science closed in on man himself.

Up to half a century ago, the reductive-analytic method worked quite satisfactorily in the physical sciences: the physical and chemical properties of matter could be understood down to the level of atoms (and up to a point, to even smaller entities) and "relationships" could be expressed by means of causal-mechanistic models.

In the biological sciences, the reductive-analytic method shows its limitations already on a less sophisticated level. It is not sufficient to study an organ on the dissecting table; the organ must be studied *in situ* as well, as it is working within, and reacting to, the whole living body of which it is a part.

In the social sciences, finally, the usefulness of the reductive-analytic method is very limited indeed. One cannot profitably study a social phenomenon without studying it in its relation to the social context of which it is a part; very few personality traits can be "dissected out" and studied *in vitro*, as it were, without reference to other aspects of the personality.

In view of this, it is useful to realize that the success of the causal-mechanistic approach, and the strength of the method connected with it, may have been determined by, and hence may be dependent on, the successes of the natural sciences, of astronomy, mechanics, physics and chemistry, disciplines which have dominated science for a number of centuries. *It need not be a matter of absolute superiority.*

Wilson (1965, pp. 70 ff) discusses in this connection a distinction which Whitehead makes between two basic modes of perception, two "ways of looking at things": "... for all Western thinkers from Descartes onward — there is only one mode of perception, which we might compare with the sense of touch. For Whitehead, there are two modes, which always accompany one another: immediacy-perception and meaning-perception.² Neither is of much use without the other." (*Op. cit.*, p. 73).

² Whitehead's own terminology here (as elsewhere!) is more obscure: he uses the terms "presentational immediacy" and "causal efficacy" respectively. (Footnote added).
“Meaning perception” implies that meaning, purpose, causalities, relationships \textit{et cetera} are perceived, “understood”, along with the factual, the tangible, the objectively visible percepts; in the case of “immediacy perception”, such relational attributes are “added” by some thinking process or other. Now as Whitehead insists, the latter mode of perception (“immediacy perception”) is a relatively recent evolutionary development “... only of importance in high-grade organisms” (Whitehead, 1927, p. 540), and, as Wilson points out, it is in fact this mode of perception which made Western science possible.

To back up this postulate, Wilson (op. cit., pp. 72/73) compares Western man to a person in a dark room who, in order to come to an understanding of his surroundings, has to touch things, pick things up one by one, manipulate them, measure their relative distances etc. etc. — in short, has to resort to \textit{reductive analysis} as the method belonging to the “immediacy” of his perception (his “sense of touch”). The result will be that, eventually, his knowledge will be more concrete and practical, more efficient in a technical sense than if he had been able to contemplate the lit-up room as a whole and understand the relationships between objects by merely looking: “immediacy perception”, supplemented by conscious efforts of hypothesizing and verification, is highly successful technologically.

On the other hand, “meaning perception” would have revealed more about the meaning and the purpose of the objects in the room, both in relation to each other as well as in relation to the whole of the room itself. Both modes of perception have their own advantages, and the \textit{relative efficacy of the one over the other} is merely a matter of \textit{goals and the conditions at hand}.

Thus it appears that reductive analysis — a method adapted to one particular mode of perception — is unique merely in the sense that it has been successful under the conditions of the natural sciences; it is not unique in the sense that it is necessarily the \textit{only} scientific method which is useful. And we have seen already that it is, in fact, less useful in the social sciences.

But not only has the reductive-analytic method been successful mainly in the natural sciences, it should also be added that it has, naturally, been effective only in terms of its own goals, which are, as we have seen, “finding out the \textit{how} of things”. The \textit{why} of things — the questions of purpose and meaning, of reasons and intentions, in short: of values — are left alone. Are \textit{inevitably} left alone (we understand now) because they do not fit in with the prevailing mode of perception. Thus science (as it was generally understood), could not handle values; the result was that values tended to be overlooked. Actually, science went one better: since science — understood as the analysis of facts and causes — could not handle values, care had to be taken to ensure that values did not interfere. “Objectivity” became the touchstone of scientific rigour.\textsuperscript{3}

\textsuperscript{3} Objectivity was apparently such an obvious attribute of science as long as it
This means that values (which in the pre-scientific ages derived from an unquestioned acceptance of the meaning and purpose behind the manner in which the world was ordered\textsuperscript{4}) were, and still largely are, driven back by objective science to the non-scientific realms of ethics and religion. This is unfortunate, since we are beginning to realize, under the influence of comparative cultural anthropology, that values, as they are laid down in religious and ethical rules-of-life, are not absolute. It would therefore seem to be unfortunate if the reductive-analytic method, applied to the social sciences, would, apart from being less useful, also, of necessity, condemn the social sciences to remain “value free”.

1.2 THE HOLISTIC-DYNAMIC APPROACH IN PSYCHOLOGY

We have broached the subject of scientific approaches in the previous section in order to provide a perspective against which Maslow’s insistence on a holistic approach in the social sciences should be judged.

Of course, the causal-mechanistic approach has been found wanting, particularly in the social sciences, for a long time and by a variety of authors; the difficulty, however, is to find a way to make its alternative, the holistic approach, practically feasible.\textsuperscript{5}

Maslow objects to the causal-mechanistic approach in the social sciences for both reasons which we have discussed in the previous section: as a humanist he refuses to ignore values, while as a psychologist he refuses to “muddle through” with an approach which let him down when he tried to apply it to subjects which he found worthwhile. (1966, p. xv). Therefore (since we cannot discuss Maslow without discussing a humanistic psychologist), it was important to begin the discussion of his theory, by way of introduction, with a discussion of the relative merits of a holistic approach as against a causal-mechanistic approach in the social sciences. But a more compelling reason is that the

\textsuperscript{4} Wilson (1965, p. 23) uses a penetrating metaphor to illustrate Mediaeval man’s perception of the universe: “He looked at the world as a savage might look at a power plant; it was bewildering, noisy, overwhelming; still, somebody understood what it was all about. It had purpose.”

\textsuperscript{5} The European reader will insist that phenomenology is a holistic approach which is being applied effectively in the social sciences; it is also true, however, that phenomenologists are found sooner among philosophers than among those bend on empirical research.
1.2—1.2.1

The essence of the "hierarchy of basic needs", the core of Maslow's motivation theory which we shall presently discuss, cannot be fully appreciated without realizing that it springs from a holistic approach, and, particularly, from the manner in which Maslow manages to make this approach operational.

Maslow points out (1954, p. 22) that the reductive-analytic method, in any field of science, sooner or later leads to questions as to the nature of the "fundamental datum", the smallest entity to which the object of investigation can be reduced for analysis, and he concludes that, in the social sciences, one is confronted with the perplexing paradox that the fundamental datum, the smallest entity which admits of independent observation, is in fact the initial complexity which one wanted to reduce to fundamental units.

This paradox is, of course, precisely the reason why a holistic approach is a matter of "sooner said than done". Maslow shows a way out of the difficulty by introducing the concept of "syndrome".

1.2.1 The syndrome concept

The syndrome concept as Maslow uses it is broader than what is meant by the term in medicine, where a syndrome is merely a list of symptoms, most of which are usually found in connection with a particular illness. Apart from the fact that Maslow does not necessarily use the concept in a negative sense, that is, in relation to sickness, the more essential difference is that the holistic syndrome is a complex of symptoms which are dynamically interrelated: "A syndrome ... [is] an organized collection of diversities, all of which have the same psychological meaning." (1954, p. 33). Two behavioural acts, for instance, are considered to be symptoms of one and the same syndrome when both can be seen as leading to the fulfilment of the same need.

If analysed holistically instead of causal-mechanistically, the "psychological meaning" (or "flavour") of the whole syndrome is found to be attached to each symptom. An example may make this clear. Considered causal-mechanistically, a laugh may simply be interpreted as being caused by mirth; that conclusion brings the observation to an end. Considering the laugh in a holistic-dynamic manner, however, that is, as a symptom of a syndrome, we might interpret the laugh as an expression of insecurity; the laugh has the "flavour" of insecurity: on hearing the person laugh, we perceive at once the psychological meaning of his laugh. And this observation may then lead us on to other symptoms of the insecurity syndrome.  

\[6 \textit{I.} \text{ The "syndrome" as defined by Maslow has a number of aspects in common with a Gestalt, the only difference being the added condition of the "common flavour" of its "parts".} \]

(continued on page 16)
1.2.1

In view of our further discussion it is useful to sum up some of the dynamic characteristics of personality syndromes — syndromes having to do with the dynamic part of the psyche — in particular. Maslow lists the following:

1. Interchangeability of symptoms: the same syndrome may manifest itself under different conditions by way of different symptoms.

2. Circular determination ("vicious circle"): e.g. aloofness, as a symptom of insecurity, tends to strengthen the insecurity itself because of the reactions to it; an insecure person tends to interpret the behaviour of others in a manner which strengthens his feelings of insecurity. (This is, of course, an exemplification of the mutuality of cause and effect, one of the reasons for the failure of the reductive-analytic approach in the social sciences). In this connection, compare also Merton's "self-fulfilling prophecy". (Merton, 1949).

3. Resistance to change: the syndrome, once established, tends to maintain itself even when external conditions change considerably; if changed, it tends to reestablish itself.

4. A tendency to change as a whole: usually, in the case of change, all or most symptoms change in a direction which has the same meaning for all.

5. Internal consistency: all symptoms belonging to a certain syndrome are usually found to be present.

Syndromes have an internal hierarchical structure, in the sense that it is possible to distinguish various levels of specificity: the first level would be the

(continuation from page 15)

2. Note that the example given is, in fact, a perfect example of "meaning perception".

3. For the benefit of readers who may have been left unconvinced by our metascientific argumentation in the first section of this chapter on the grounds that Whitehead, not a psychologist, could therefore be no authority on the subject of perception, we insert here a few lines from Wygotsky, a brilliant Russian psychologist (relatively unknown because he died young) which we happened to come across while preparing the present text for the press. Discussing the choice of the proper method in psychological research, Wygotsky (1934, pp. 7-10) writes: "In psychology, one must distinguish two kinds of analysis. One of these, in our opinion, is responsible for all failures up to the present time... The second, on the other hand, lends itself very well for taking at least a first step in the direction of a solution. The first kind of psychological analysis could be expressed as the splitting-up of the complex psychological whole into its elements, comparable to the chemical analysis of water into hydrogen and oxygen. (...) [The other type of analysis] we might express as an analysis by which the complex unified whole is organized into part-units. By this we mean a product of analysis which, in contrast to elements, possesses all the attributes which belong to the whole and which represents indivisible "living" parts of this unified whole. (...) Particularly in psychology, the methods of splitting up into elements should be replaced by a kind of analysis which depends on the structuring of part-units." — Here also we find a distinction of two modes of analysis (a reductive against a holistic one) which leads up to a concept comparable to the concept of syndrome.

7 For an elaborate treatment, see 1954, pp. 37-44.
syndrome itself, e.g. self-esteem; as the second level might be taken a general symptom of the feeling of self-esteem, e.g. a dominating attitude towards subordinates; a specific symptom such as the behavioural act of talking somebody down would then be a third and last level.

At each level, clusters of interrelated subsyndromes or symptoms are found, while in principle, especially at the more "superficial" levels, such as behavioural acts, the symptoms of different syndromes may be interrelated. This means that a particular behaviour usually has the "flavour" of more than one syndrome at the same time.

Finally, it is of importance to point out that, whereas syndromes themselves may be so fundamental as to be the same for all mankind (see 1.3), the various manners in which they are expressed in symptoms are situationally, e.g. culturally, determined.

1.2.2 Needs as syndromes

Thus, syndromes are the "fundamental data" which should make the holistic approach in psychology operational. Behavioural acts, for instance, may be understood as symptoms of (one or more) personality syndromes. Which, however, are these personality syndromes?

Within the framework of a theory of motivation, behavioural acts, of course, interest us to the extent that they are symptoms of certain needs. Accordingly, Maslow bases his holistic-dynamic theory of motivation on need-syndromes, postulating a restricted set of such syndromes which he calls "basic needs". The basic needs then are the "fundamental data" of his theory: „Usually when a conscious desire is analysed we find that we can go behind it, so to speak, to other more fundamental aims of the individual. (...) It is characteristic of this deeper analysis that it will always lead ultimately to certain goals or needs behind which we cannot go; that is, to certain need-satisfactions that seem to be ends in themselves and seem not to need any further justification or demonstration. These needs have the particular quality in the average person of not being seen directly very often but of being more often a kind of conceptual derivation from the multiplicity of specific conscious desires. In other words then, the study of motivation must be in part the study of the ultimate human goals or desires or needs.” (1954, p. 66).

Which “ultimate human goals or desires or needs” are chosen, depends largely on the personal preferences of the motivation theorist; the literature abounds with lists of manifest needs grouped together in one way or another.

The point which Maslow makes, however, is that, in order to be useful in the frame of reference of a holistic theory of motivation, these groupings should represent syndromes. It will be found, accordingly, that the "basic needs" which
Maslow chooses, do in fact have all the characteristics of syndromes which we have listed in section 1.2.1.

It must therefore be well understood that, when "basic needs" and "syndromes" are equated, this means that a syndrome is, in general, not equivalent to one specific need, but to a category of needs which have in common a particular "psychological flavour": "... it should be recognized that if we attempt to discuss the fundamental desires they should be clearly understood as sets of desires, as fundamental categories or collections of desires". (1954., p. 71).

In practice, Maslow refers no longer to the basic needs as syndromes once his holistic standpoint has been explained; the term "need category" is most frequently used synonymously with "basic need". The reader will understand now that the needs which make up such a need category constitute in fact a collection of symptoms of that basic need syndrome.

1.3 PSILOPATHOGENIC NEEDS

A crucial point which is subsequently made by Maslow is that those needs which are fundamental to the personality structure in the sense that they constitute syndromes rather than incidental symptoms, are in general at the same time "the needs that are best known to psychologists for the simple reason that their frustration produces psychopathology". (1954, p. 2).

Specifically, certain needs are called psychopathogenic because:

— The person yearns for their gratification persistently.
— Their deprivation makes the person sicken and wither, or stunts his growth.
— Gratifying them is therapeutic, curing the deficiency-illness.
— Steady supply forestalls these illnesses.
— Healthy people do not demonstrate these deficiencies."^8

Because of these psychopathogenic aspects, (and for other reasons which we pass by) Maslow holds the basic needs (as all syndromes, see 1.2.1) to be innate and universal, inherent to human nature, i.e. instinctoid (although he admits that he cannot prove this contention conclusively). "What I have called the basic needs are probably common to all mankind and are therefore shared values." (1959a, p. 122). This is an important point which we shall meet again in Chapter 2 (2.3). In view of what follows, especially in our next chapter, it is of special interest to mention that, as one of the main aspects of an extensive critical treatment of instinct theory (1954, Ch. 7) Maslow points out that the "bad animal interpretation of instincts" is a fallacy which has had particular unfortunate effects, especially in Western civilization. "Recognize instinctoid

^8 See 1955, p. 4; 1959a, p. 123; 1962b, pp. 20 and 144/145. 1963 contains a more extensive listing.
needs to be not bad, but neutral or good, and a thousand pseudo problems solve themselves and fade out of existence." (1954, p. 135). The result, as we shall see in Chapter 2, may be even more positive than that.⁹

The psychopathogenic basic needs are “empty holes, so to speak, which must be filled up for health’s sake”. (1955, p. 5). For this reason, and in order to contrast them with a different category of basic needs (the growth needs (1.5.2)), these needs are called “deficiency needs” or simply “deficits”.¹

It is important to stress the distinction between basic and more specific, incidental needs with regard to pathology, that is, with regard to the effect which their frustration has on the personality. Maslow is very explicit on this point (1954, p. 156): “It is only when a goal object represents love, prestige, respect, or other basic needs, that being deprived of it will have the bad effects ordinarily attributed to frustration in general.”

The point is illustrated with the example of an ice-cream cone which is withheld from a child. To the child who is basically gratified in his love needs, not getting an ice-cream merely means being deprived of a sensory gratification; to the child who is less fortunate with respect to the fulfilment of his needs for love, however, the withholding of the ice-cream may mean another frustration of these needs. Only in the latter case, Maslow insists, is the frustration pathogenic.

The need categories then, which are “basic” in the sense that, holistically speaking, they constitute “fundamental data of the personality”, are seen to be basic not only from a methodological point of view, but also from the point of view of what they mean in the dynamics of the personality.

1.4 HIERARCHY OF PREPOTENCY

We have thus seen that the concept of “basic need” is central to Maslow’s motivation theory in two ways:

⁹ In this connection it should be noted that Maslow uses considerable space (1942b; 1954, Ch. 10) arguing that aggression is not instinctoid but reactive. His arguments seem convincing enough, but later (1959a, p. 132; 1962b, p. 153) he indicates that he is not quite satisfied on this point.

¹ As a matter of fact, we have been obliged to bring some order into Maslow’s terminology, which sometimes seems somewhat chaotic; throughout his works, the terms “basic”, “instinctoid”, “deficit” are used rather indiscriminately. For instance, the psychopathogenic characteristics of the deficiency needs are listed (1955, p. 4) as characteristics of (all) the “basic or instinctoid” needs; however, further on (1955, p. 10) we read: “Apparently not all basic needs are deficits but the needs whose frustration is pathogenic are deficits”. The most satisfying interpretation, we have found, is to consider all basic needs to be “instinctoid”, but to consider only the “deficits” (among the basic needs) to be “pathogenic”.
The concept derives from a holistic-dynamic approach to science; the categories of basic needs are syndromes and as such they constitute “fundamental data of the personality”.

The basic deficiency needs are “basic” in the sense that frustration of these needs is psychopathogenic.

Before we proceed to identify them, one other essential feature of the basic needs must be pointed out. This we shall do quite superficially for the moment, as we shall return to it in detail further on (1.6); in fact, it is this aspect of Maslow’s theory of motivation which will mainly concern us in the present monograph: the dynamic relationship between the basic needs.

The basic needs are not merely categories into which the total number of all conceivable needs may be rubricized (each on its own level), but the basic needs relate to each other in a hierarchical fashion: “Wanting anything in itself implies already existing satisfactions of other wants. We should never have the desire to compose music or create mathematical systems, or to adorn our homes, or to be well dressed if our stomachs were empty most of the time, or if we were continually dying of thirst, or if we were continually threatened by an always impending catastrophe, or if everyone hated us. Proper respect has never been paid by the constructors of motivation theories to either of these facts: first, that the human being is never satisfied except in a relative or one-step-along-the-path fashion, and second, that wants seem to arrange themselves in some sort of hierarchy of prepotency.” (1954, p. 69).

We must give some special attention to this last concept of “prepotency”. Even though, as we noted in the Introduction, the “hierarchy of basic needs” has become well known since its publication some 25 years ago (the paper in question (1943a) was reprinted in various texts up to 1960), it would seem that the concept “prepotent over” which is essential to it, is not always correctly understood. It is sometimes taken to mean simply: “stronger than”.

This meaning, however, is only correct to a certain extent and, being essentially static, does not convey the dynamic nature of the relationships between the basic needs. And this is exactly the point: the prepotent need is strongest in the sense that it has to be satisfied first. As soon as it is satisfied (at least to some extent), then the next category of basic needs (the next syndrome) in the hierarchy of prepotency emerges, and needs from that category will now be found to be strongest, i.e. have the stronger influence on the motivated behaviour of the individual.

Cf 4.3.2.5 Friedlander (1965). Cofer & Appley (1964, p. 684) refer to a “sort of dominance hierarchy”. Herzberg et al (1959, p. 110) refer to “... needs... initially less prepotent, but ready to become more prepotent...”. See also 9.I.4.
1.5 THE BASIC NEEDS

Having explained the various meanings of the concept “basic need” and the relationship between the basic needs, it is useful to give a description of these needs as Maslow identifies them, before going into the nature of their dynamic relationship in more detail.

We shall discuss the basic needs in their order of prepotency.\(^3\)

1.5.1. The deficiency needs

1.5.1.1 The physiological needs

Into this category fall all those needs, the fulfilment of which serves to sustain the organism; the needs for food, water, sleep, shelter, etc. Of these needs Maslow writes (thereby explaining once more what is meant by “prepotent”): „Undoubtedly these physiological needs are the most prepotent of all needs. What this means specifically is that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major motivation would be the physiological needs rather than any others. A person who is lacking food, safety, love, and esteem would most probably hunger for food more strongly than for anything else.” (1954, p. 82). As is true for the other basic needs, the syndrome-quality of the physiological needs is very much in evidence; frustration of a basic need, e.g. for food, permeates the whole personality, determining not merely its actions, but also its perceptions.

1.5.1.2 The safety needs

“If the physiological needs are relatively well satisfied, there then emerges a new set of needs, which we may categorize roughly as the safety needs.” (1954, p. 84). These needs include those for an understandable, well-ordered, predictable situation, for certainty about future satisfaction of the physiological needs, for personal safety, and the like. Most of these safety needs are rather chronically fulfilled in the more affluent societies in the Western world: “We can perceive the expressions of safety needs only in such phenomena as, for instance, the common preference for a job with tenure and protection, the desire for a savings account, and for insurance of various kinds (medical, dental, unemployment, disability, old age). Other broader aspects of the attempt to seek safety and stability in the world are seen in the very common preference for familiar rather than unfamiliar things, or for the known rather than the unknown. The tendency to have some religion or world philosophy that organizes the universe and the men in it into some sort of satisfactorily

\(^3\) Cf 1954, pp. 80-98.
coherent, meaningful whole is also in part motivated by safety seeking.” (1954, pp. 87/88).

Under less favourable circumstances, that is, when normal, familiar conditions break down, man may regress to a state where the basic needs for safety once again become manifest. Davitson Ketchum (1964, p. 32), a Canadian psychologist who spent most of his life analysing the psychological impact of the internment of British civilians in Germany at the outbreak of the first world-war, writes: “But the men’s pressing need for a predictable future is shown most clearly by their prompt though unconscious efforts to create one. The first method, illusory but momentarily satisfying, was the spawning of countless rumours of release. The second, which finally replaced it, was to build within the camp the only context in which long-range purposes can be formed — a stable social order”.

The safety needs are frequently referred to as security needs.

1.5.1.3 The social needs

“If both the physiological and the safety needs are fairly well gratified, there will emerge the love and affection and belongingness needs, and the whole cycle already described will repeat itself with this new center. Now the person will feel keenly, as never before, the absence of friends, or a sweetheart, or a wife, or children. He will hunger for affectionate relations with people in general, namely, for a place in his group, and he will strive with great intensity to achieve this goal.” (1954, p. 89).

It is important to realize that the social needs are of two distinct kinds: the more passive, dependent needs to be loved, to belong, to be “accepted”, to receive love, and the more active, independent needs to be kind, to help, to be a responsible member of the community, etc. The earliest reference to this distinction reads: “Also not to be overlooked is the fact that love needs involve both giving and receiving love”. (1954, p. 90). Soon the distinction gets considerable stress when Maslow (1955, pp. 26 ff) identifies “the contrasting dynamics of B-love (love for the Being of another person, unneeded love, unselfish love) and D-love (deficiency-love, love need, selfish love)”.

Throughout this text we shall be very explicit about these two types of social needs, the more active and the more passive type, and treat them as two distinct categories.

1.5.1.4 The esteem needs

“All people in our society (with a few pathological exceptions) have a need or desire for a stable, firmly based, usually high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others.” (1954, p. 90).

4 Western society would seem to combine a relative paucity in values based on the
As was the case with the social needs, the esteem needs must also be recognized as being of two different kinds, typified by the need for respect from others and the need for self-respect. About this division, Maslow is much more explicit than in the case of the social needs: “These needs may . . . be classified into two subsidiary sets. These are, first, the desire for strength, for achievement, for adequacy, for mastery and competence, for confidence and freedom. Second, we have what we may call the desire for reputation or prestige (defining it as respect or esteem from other people), status, dominance, recognition, attention, importance, or appreciation.” (1954, p. 90).

As with the social needs, the two types of esteem needs — which may again be distinguished as a more active and a more passive type — will also be treated as two distinct categories throughout.

So much for the deficiency needs, the “empty holes . . . which must be filled up for health’s sake” (1.3). With the possible exception of the need for self-respect — which Maslow calls “a doubtful case” (1955, p. 10; see also 9.1.5) — it will be seen that gratification of these needs must come from without the individual: the needs must be satisfied by, or at least through, other individuals.

7.5.2 The growth needs: self-actualization

The needs which eventually determine the motivational life when the deficits are fundamentally gratified (when all the “empty holes” are filled), are called “growth” needs. As shall be discussed later (2.3), the distinction is a very basic one, since there is a considerable difference in quality between growth needs and deficiency needs, and between deficiency motivated and growth motivated individuals.

The growth needs are of one category only: they are the needs for self-actualization, “the desire to become more and more what one is, to become everything that one is capable of becoming”. (1954, p. 92).5

The needs for self-actualization seldom manifest themselves to their full extent in the average person. Most individuals never grow all the way through the deficiency needs, but function primarily at the levels of the social and the esteem needs. Primarily: since the more prepotent needs do not have to be social needs with an over-stress on values which find their basis in the esteem needs; dominance, achievement and power are cases in point. These needs have received particular attention from motivation theorists: inter alia Maslow himself (dominance, self-esteem: 1936; 1937; 1939; 1940a, b; 1942a, c), McClelland et al (n-Achievement: e.g. McClelland et al (1953); Atkinson & Feather (1966); also Hermans (1967)) and Mulder (power: Mulder (1958, 1963a)).

5 Maslow acknowledges having derived the term “self-actualization” from Goldstein (1939); as MacKinnon & Maslow (1951) point out, the concept was first introduced into psychology (under the name of “individuation”) by Jung, as a critique on Freud.
fulfilled completely and permanently for a less prepotent need to emerge (1.4), the needs for self-actualization can be seen to operate in many individuals to some extent, for instance in the form of the desire to do a good job, to use whatever capacities one has, and the like.

The dynamics of the hierarchy of basic needs led Maslow to become especially interested in “self-actualizing” individuals. For that reason, we shall discuss the concept of self-actualization extensively in Chapter 2 (2.4); for the moment, the simple description given above will suffice.

1.5.3 The cognitive and the aesthetic needs

Apart from the seven* categories discussed above, Maslow distinguishes three more sets of needs which he considers basic in both senses explained before (1.4) namely the needs to know, the needs to understand, (together the cognitive needs) and the aesthetic needs: the needs for beauty, for aesthetically satisfying surroundings, and so on.

It is not clear how the cognitive and the aesthetic needs fit in with the hierarchy of the seven basic (conative) needs we have just discussed. On logical grounds, Maslow (1954, p. 97) points out that the need to know is prepotent over the need to understand, and that therefore the cognitive needs in themselves constitute a small hierarchy; at the same time he warns against making a sharp contrast between the cognitive and the conative needs. On the other hand, nowhere are the cognitive needs, nor the aesthetic needs, explicitly assigned a position in the hierarchy.

Roe (1956, pp. 23 ff) and Madsen (1964, p. 248) solve the dilemma by putting the cognitive and the aesthetic needs, in that order, between the esteem needs and the needs for self-actualization; however, neither Roe nor Madsen give their reasons for doing so, nor do they make it plain that this sequence is not suggested by Maslow himself. All other authors who have come to our notice (and a number of whom we will meet in Chapters 8 and 9) have solved the problem by restricting their attention to the hierarchy of purely conative needs; we shall do the same in this theoretical discussion as well as in the design of our study.

1.5.4 Various other indications of the hierarchy

It is of some interest to point out that the sequence of (conative) needs just described may be recognized in various forms, as may be illustrated by the following examples.

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* As we shall consistently distinguish both the social needs and the esteem needs in their “passive” and their “active” components, we shall henceforward consider a hierarchy of seven categories of basic needs.
As Maslow suggests, the hierarchy of basic needs can be traced back in the development of the individual. The newborn baby is wholly dominated by the various physiological needs, but soon, in the infant, security needs emerge; the baby cries for physiological reasons, whereas the infant cries when it is startled, hugged by a stranger, etc. With the onset of the recognition of the self as an entity separated from the environment, the social needs emerge in the young child; consecutively the adolescent is typified by the esteem needs — *his* basic problem is to establish himself, to win regard from his peers and, eventually, from himself. Self-actualization, if that stage is reached at all to an appreciable degree (depending on the relative psychological health of the individual), must often wait till middle-age or later.\(^7\)

On a different scale Maslow (1961, p. 2) recognizes a development along the hierarchy of prepotency in the history of Trade-Unionism. The present writer feels that one might even attempt such a historical parallel on the somewhat wider scale of the development of relations in the Western industrial setting in general: at first, labour was merely a physiological commodity (Taylor (1911)); the rise of socialism, and of the labour unions in particular, developed out of needs for security (nineteen twenties); the social needs found recognition in the “human relations” movement (nineteen fourties), while eventually the esteem needs found their champions in students of management like Drucker (1954), Argyris (1957) and McGregor (1960); finally, as the following pages will testify, the needs for self-actualization are now coming gradually into their own.

Not only in the personal development of the individual or of an aspect of society, but even in the evolutionary development of the animal world in its totality do the basic needs emerge gradually in their hierarchical order. “The higher the need, the more specially human it is.” (1954, p. 147). We shall have occasion to discuss this point in more detail in the opening section of Chapter 2.

### 1.6 THE DYNAMICS OF THE HIERARCHY

#### 1.6.1 The nature of the dynamic relationship

Since the hierarchy of basic needs is in fact the subject of the study to be reported in Part II of our text, we shall have to go into the nature of the dynamic relationship between the basic needs in more detail.

To begin with, the contrast between Maslow’s dynamic theory of motivation and other, static, theories should be made clear. We refer here to those theories which consider motivation essentially as a striving for tension reduction. Freud,

\(^7\) “As for self-actualization, even a Mozart had to wait till he was three or four.” (1954, p. 147).
of course, was the influential propagator of such views: tensional states are unpleasant by definition, and are therefore counteracted by the organism: “The nervous system is an apparatus having the function of abolishing stimuli which reach it, or reducing excitation to the lowest possible level, an apparatus which would even, if this were feasible, maintain itself in an altogether unstimulated condition . . .” (Freud, 1915, p. 63).

Likewise based on the principle of tension reduction is the theory of homeostasis as proposed by Cannon (1932). Cannon considers the organism essentially as a self-regulating mechanism; the body (and likewise the psyche) strives towards the (re-)establishment of equilibrium. A need arises when the energy balance becomes disturbed; the intake of food satisfies the need which therefore disappears and the organism remains at rest until the balance is disturbed again in one way or another.

Such theories of rest are strongly opposed by Maslow on the grounds that they are a consequence of a causal-mechanistic approach. In terms of a causal-mechanistic model, fulfilment of a need causes the strength of the need (the tensional state) to be reduced; of necessity, the causal chain ends there. A causal-mechanistic theory, in this case, does not allow for anything else to happen next: “This theory [of homeostasis] must be put down as an inadequate description even of deficiency motivation. What is lacking here is awareness of the dynamic principle which ties together and interrelates all these separate motivational episodes. The different basic needs are related to each other in a hierarchical order such that gratification of one need and its consequent removal from the center of the stage brings about not a state of rest or Stoic apathy, but rather the emergence into consciousness of another “higher” need; wanting and desiring continues but at a “higher” level.” (1955, p. 14).

The crux of the matter Maslow sums up as follows: “Man is a wanting animal and rarely reaches a state of complete satisfaction except for a short time. As one desire is satisfied, another pops up to take its place. When this is satisfied, still another comes into the foreground, etc. It is a characteristic of the human being throughout his whole life that he is practically always desiring something.” (1954, p. 69).

This being the situation, the question naturally arises as to the nature of the dynamic relationship: why do new needs constantly present themselves in the individual’s consciousness? Why is man an ever-wanting animal?

Maslow insists that, in order to answer these and comparable questions,\(^8\)\(^9\)

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\(^8\) As quoted by Cofer & Appley (1964, p. 600).

\(^9\) e.g.: What makes psychotherapy possible? Why does the healthy child *enjoy* developing from one stage of adjustment to the next? With regard to this last question, Maslow shows very clearly where he departs from the Freudian viewpoint: “Observation of children shows more and more clearly that healthy children *enjoy* growing and moving forward, gaining new skills, capacities and powers. This is in flat contra-
“more and more psychologists have found themselves compelled to postulate some tendency to growth or self-perfection to supplement the concepts of equilibrium, homeostasis, tension-reduction, defence and other conserving motivations” and he refers, *inter alia*, to his fellow humanist psychologists Goldstein (1939), Angyal (1941), Fromm (1947), Horney (1950) and Rogers (1954). (1955, p. 5 and 1962b, p. 21).

Criticizing the static character of the concepts of rest and of homeostasis, Maslow (1955, p. 13) concludes: “In either case the lack of constant direction through a lifespan is obvious. In both cases, growth of the personality, increase in wisdom, self-actualization, strengthening of the character, and the planning of one’s life are not and cannot be accounted for. Some long-time vector, or directional tendency, must be invoked to make any sense of development through the lifetime.”

1.6.2 Growth

Maslow identifies the “long-time vector, [the] directional tendency” behind the dynamic relationship which we have discussed in the previous section as a basic tendency for “growth towards psychological health”. The term is somewhat confusing, since in so doing Maslow equates psychological health with the result of psychological growth-through-the-hierarchy. We feel that this is unfortunate since we do not understand Maslow to imply that an individual who has not yet grown through the hierarchy is psychologically unhealthy. Surely, since growth is postulated to be an innate tendency, an individual who is (still) actually growing in a psychological sense could not very well be called “sick”. As a matter of fact, Maslow is explicit about psychological sickness: as we have seen (1.3), only those individuals are called sick who do not grow; Maslow implicitly equates “neurotic” with “chronically frustrated in a basic need”. (1955, p. 3).

The reason why Maslow uses the term psychological health in the restricted sense, is that he wishes to distinguish “positive” psychological health from mere absence of illness. As the reader will discover (2.3), this distinction is basic to the whole discussion contained in Chapter 2.
For this reason we shall, in the following, adhere to the definition of "psychological health" in the restricted sense in which Maslow uses the concept, that is, as referring to the end-product of psychological growth, which implies that, basically, the deficiency needs are fulfilled.

The concept of growth is important not only because it is central to Maslow's motivation theory, but also because it has caused Maslow, during the past twenty-odd years, to stress the study of psychological health instead of psychological sickness. Maslow argues that psychology, and psychoanalysis in particular, has been mainly concerned with studying animals and neurotic human beings: "it is as if Freud supplied to us the sick half of psychology and we must now fill it out with the healthy half". (1962b, p. 5).

Since "psychological health" and thereby the concept of "growth", which is central to it, is to be the subject of Chapter 2, we limit our discussion of the concept of growth at this point to the few remarks just made. Before closing the present chapter we must, however, discuss the hierarchy of basic needs to some detail in the light of it.

### 1.6.3 Details of the hierarchical sequence

The reader remembers that we started the discussion of the categories of basic needs (1.5.1) with the physiological needs, the most prepotent category. Since this category is, as it were, the basis of the whole structure, and as "growth" is usually identified with an upward direction, the hierarchy of basic needs is most logically represented with the physiological needs at the bottom and the self-actualizing needs at the top. The distinction between "higher needs" and "lower needs", which we shall frequently have to make in later chapters, must be thought of as deriving from this manner of representation rather than as reflecting any value judgement.

The hierarchy of basic needs thus written down, is as follows:

I The needs for self-actualization.

II The esteem needs, divided into the (active) needs for self-esteem (IIa) and the (passive) needs for esteem from others (IIb).

III The social needs, divided into the (active) needs for "love of others" (IIIa), and the (passive) needs for "love from others" (IIIb).

IV The security needs.

V The physiological needs.

For easy reference, we have identified each need category by a roman numeral, whilst the subdivisions of the categories II and III are designated as IIa and IIb, and IIIa and IIIb respectively. The reader is advised to memorize the symbols used here, since it simplifies the discussion considerably when need categories are referred to by symbol rather than by name.
We will have to come to a decision concerning the subdivisions of the categories II and III. As the reader will notice, while arranging the categories I, II, III, IV and V in order of prepotency (or "growth"), we evaded the issue as far as the (sub)categories IIa, IIb, IIIa and IIIb are concerned.

Although, as we have seen, both subdivisions are explicitly mentioned by Maslow himself (1.5.1.3 and 1.5.1.4), one searches in vain for an explicit statement as to the order of prepotency of these subcategories. Since category III is prepotent over II, IIIa and IIIb will be prepotent over both IIa and IIb. But is one of the subcategories of the social needs prepotent over the other, and is the same true for the two subcategories of esteem needs?

The reader may wonder whether the problem is of enough practical importance to be paid much attention to; however, as will become clear in Part II, the presentation of our research data requires that we make a decision.

As a matter of fact, the problem goes deeper than one would think at first glance.

In terms of prepotency, we find only implicit indications in sentences like: "... healthy people have sufficiently gratified their basic needs for safety, belongingness, love, respect and self-esteem, ..." (1955, p. 8), from which the order of prepotency may be understood to be V, IV, IIIb, IIIa, IIb, IIa, I.

In terms of growth, which, as we have seen, is another dimension of the hierarchy, we would come to the same conclusion. Obviously, the need to love is less of a deficiency need than is the need to be loved; likewise, the need for self-respect is a more "grown-up" type of esteem need than is the need for respect from others. Apparently, irrespective of whether "prepotency" or "growth" is considered, the same sequence is obtained.

Or, is it? It might be maintained that "love from others" (IIIb) and "respect from others" (IIb) both imply a stronger dependence from other people than do "loving others" (IIIa) and "self-respect" (IIa), and that therefore they have more of the character of deficiency needs (1.5.1.4). It would seem to make sense that "loving other people" is more mature than "seeking respect from other people", and hence that IIIa implies more "growth" than IIb.

This amounts to a reversal of the subcategories IIIa and IIb, and it follows that, if we equate "growth" with "attaining more independence from other people", we this time get different results dependent on whether "growth" or "prepotency" is considered as a criterion.

There is still another line of reasoning to consider.

What we have remarked above for the social and the esteem needs, namely, that they show (varying amounts of) dependence on other people, is true a fortiori for the security needs; they must largely be gratified through other people. But — though this is not made explicit by Maslow when he discusses the safety needs (1954, pp. 84/89) — gratifying the safety needs through other people means partly that this may be done by securing love and respect from these other people; in other words, gratification of the safety needs may be achieved by gratification of the social and the esteem needs. (See our quotation from Davidson Ketchum at the end of 1.5.1.2).

This point is stressed with considerable force by Noordzij (1964) in a study of the nursing staff of a psychiatric hospital. Making the gratification of the social and esteem needs conditional to the gratification of the security needs leads Noordzij to the
shortcut of considering security as the one main prerequisite to self-actualization in the job: “It is stipulated that, in the specific therapeutic community which the modern psychiatric institution is or should be, one should aspire, in an atmosphere of security, through good management, training and guidance, to self-actualization of the nursing staff in the job.” (Noordzij, 1964, p. 173; translation by the present author). Citing Oerlemans (1950), Noordzij (op. cit., p. 176) stresses the point that safety, in children, is dependent on a stable affective parental relationship, and concludes: “In an analogous way, it is seen that later on pay, fringe benefits, relaxation and the opportunities for spending one’s spare time, are associated with receiving understanding and social interest from the side of the employer, provided real interest is in evidence and the “permanently affective” atmosphere provides a feeling of security.” (Op. cit., p. 177).

Eventually, Noordzij (op. cit., pp. 178/9) indicates as conducive to security on the job such factors as a well-structured situation, socio-emotional aspects and “self-security and the experience of self-worth”.

Without going so far as to include the last point (category IIa!), Maslow himself implicitly recognizes the partial similarity of the security and the social needs in the following sentences: “We might then say of the self-esteem syndrome, for instance, that it is the organized answer of the organism to the problem of acquiring, losing, keeping and defending self-esteem, and similarly for the security syndrome that it is the organism’s answer to the problem of gaining, losing, and keeping the love of others” (1954, p. 34), and: “… an individual may attempt to maintain his security by adopting an overbearing and superior attitude. He would not have taken this attitude unless he felt rejected and disliked (insecure)” (1954, p. 38).

However, both sentences are more or less unique, since this kind of relationship between some of the basic needs is not discussed anywhere else. Surprisingly enough, neither is the relationship mentioned in relation to the security-insecurity test constructed by Maslow et al (1945), where 14 out of 75 items clearly belong to the category of social needs.2

Following through on Noordzij’s argumentation, the hierarchy of basic needs comes to look as follows:

I  
IIa  
| self-actualization, independence, growth |
| IIIa |
| IIb |
| IIIb |
| IV  |
| V   |

security, dependence, deficiency

While the needs for love and respect from other people (for the fulfilment of which one is dependent on these other people) would now fall under one more encompassing category of needs for security, the needs for self-respect and for loving others would be considered as forms of self-actualization.

2 Also it was found that out of 61 cases which had come up for treatment and which scored below the 50. percentile on the security-insecurity test, 18 indicated unsatisfactory social integration as their main complaint.
The reader will appreciate that the discussion in this section has been rather hypothetical. Though we have made a case for subcategory IIIa to be separated from IIIb, and likewise IIb from IIa, the dilemma remains that this would go against the order of prepotency of the categories III and II in their entirety. The case, obviously, could only be decided through better insight into the dynamics of the basic needs; for the moment, the issue would seem to be about evenly balanced. Since we have to choose one way or the other in view of the rendering of our data in Chapter 8, we have considered it wise to remain on the safe side and leave the categories II and III intact. As it is, the investigation to be reported in the latter part of this monograph will provide some data relevant to this problem. (Section 9.1.6).

We decide, therefore, that the hierarchy of basic needs as we shall investigate it in Part II, will look as follows:

I Self-actualization
IIa Self-esteem
IIb Respect
IIIa Love for others
IIIb Belongingness
IV Safety
V Physiological needs
CHAPTER 2

Psychological health

At fifty-seven, Prudentius renounced the world: entered the cloister, and with it the kingdom of heaven. He has the directness, the closeness to the object that is part of the physical necessity of childhood, and the experienced wisdom of old age. Blake has it, in whom the child and the Ancient of Days have equal parts: there are traces of it in the later work of Thomas Hardy.

Helen Waddell: The wandering scholars

2.1 PSYCHOLOGICAL GROWTH

As will have become clear from the material which we have presented in Chapter 1, Maslow’s holistic theory of motivation hinges on the concept of psychological growth, a “long-time vector, or directional tendency” (1.6.1) which causes the individual (if all goes well) to gradually climb the rungs of the hierarchy of basic needs.

As long as the theory has not been borne out conclusively by research evidence, this concept of “psychological growth through the hierarchy of basic needs” remains, of course, a hypothetical construct. Once again by way of providing a wider perspective against which to judge the subject at hand, it is therefore of interest to begin the discussion in this chapter with a discussion of the concept of growth in a different — if the reader wills: wider — context.

We have already mentioned (at the end of section 1.5.4), that Maslow himself points out that the “long-time vector, or directional tendency”, is not only an intra-individual tendency, but can be shown to parallel the evolutionary development of the animal world; the higher needs appear later in the phyletic scale.

“We share the need for food with all the living things, the need for love with (perhaps) the higher apes, the need for self-actualization (at least through creativeness) with nobody.” (1954, p. 147). For some reason or other Maslow skips the esteem needs, but by coincidence Polanyi (1958, p. 385) “fills in” here with: “while animals are acknowledged as centres of interest to themselves, we owe respect to our fellow men”.

1 Which is the more surprising, since Maslow has done extensive work with infra-human primates, especially on the subject of dominance. (1936, 1940a).
Now the latter remark is the hub of an argumentation the point of which is that evolution is not a mere matter of biology, of Darwinian natural selection, but that “from a seed of submicroscopic living particles — and from inanimate beginnings lying beyond these — we see emerging a race of sentient, responsible and creative beings. The spontaneous rise of such incomparably higher forms of being testifies directly to the operations of an orderly innovating principle.” And further: “At each successive stage of this epic process we see arising some novel operations not specially in terms of the preceding level.” (...) “It is obvious therefore, that the rise of man can be accounted for only by other principles than those known today to physics and chemistry.” (...) “Darwinism has diverted attention for a century from the descent of man by investigating the conditions of evolution and overlooking its action. Evolution can be understood only as a feat of emergence.” (Polanyi, 1958, pp. 386-390).

Finally, Polanyi himself (op. cit., p. 395) points out the close analogy of the intra-personal evolution, from self centered infant to intelligent person (1.5.4), with the evolutionary development described in the foregoing quotations: “We have here a process of maturation closely analogous to the corresponding step of anthropogenetic emergence, leading from the self-centered individuality of the animal to the responsible personhood of thoughtful man: in fact, to the emergence of the noosphere”. 2

The analogy between individual growth and evolutionary development, thus proposed by both Maslow and Polanyi, is also found in the following quotation from Wilson (1965, pp. 124/5): “Man . . . possesses a conscious hunger for “complexification”, for evolution. All this is to say that the “human level” is quite different in kind from the animal level, and possesses the potentiality of a new freedom. Man . . . is a purposive animal. He is still an amphibian trying to learn to live on land, but he is approaching a condition when he will cease to be a creature of biological motives — security, sex, dominance — and will regulate all his activities by a primary motive — evolutionary purpose, self-change. He cannot be contented with purposes that come from outside; he hungers from an inner drive.” It seems to us that both aspects, the evolutionary purpose of man and the self-actualization of man, are referred to here all at the same time.

Fromm (1959, p. 163) makes a statement which closely parallels this: “. . . each individual represents in himself the whole of humanity and its evolution. We find individuals who represent man on the most primitive level of history, and others who represent mankind as it will be thousands of years from now.” (Emphasis added).

2 The term noosphere, coined by Teilhard de Chardin (1955, p. 200), designates the realm of thought, of abstract concepts, of symbolism, as against the biosphere, the purely animal life context.
It is, of course, an attractive, because profoundly hopeful speculation to think of Maslow's "long-time vector, or directional tendency" and Polanyi's "orderly innovating principle" to be one and the same life force. In that case we might, with Fromm and Wilson, consider the "self-actualizing individual" — the individual who has "grown through" the deficiency needs and who, as we shall yet see (2.3, 2.5) is a relatively rare specimen, qualitatively different from ordinary man — as a representative of the ultimate potentiality of animal development, a "spearhead of evolution", as it were.  

2.2 ADJUSTMENT HEALTH AND NORMATIVE HEALTH

Having thus provided some perspective for the concept of growth from which derives the concept of psychological health as Maslow defines it (1.6.2), let us now consider — with Maslow — how this last concept compares with current concepts of psychological health which are defined in a different manner.

A familiar definition of psychological health is given in terms of adjustment: an individual is psychologically healthy to the extent that he is well adjusted to his environment.

Maslow concedes that "adjustment health" is quite useful in the sense that the lack of stress, and the feeling of security which adjustment brings, is subjectively felt as well-being, and the well-adjusted individual will usually be seen to operate quite adequately in his particular environment. But Maslow raises various objections against equating such adjustment with psychological health.

For one thing there is, of course, the objection that adjustment health is a matter of "tension reduction", of a condition of "rest" or "homeostasis"; consequently, it can never be an "end-state". (1.6.1). Also, it is normatively unsound: what to think of, Maslow asks, the psychological health of an individual who is well adjusted to a criminal gang, the psychological health of a well adjusted, remorseless SS-officer at Auschwitz, or that of a prison inmate well adjusted to a senseless routine?  

But Maslow's more general objection is that adjustment health is not an absolute concept: since cultural anthropology has shown that different cultures, societies and groups require different forms of adaptation, equating psychological health with "good adjustment" may provide an operational definition for

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3 In the meantime it is sobering that the Darwinian hypothesis of evolutionary development based on simple natural selection of accidental mutations (actually a good example of the causal-mechanistic approach!) is still found to be quite satisfactory by some outstanding scientists in the field of heredity and evolution. (Viz. Crow, 1967).

4 (1954, p. 338). Consider even the psychological health of the "normal" individual who, true to type, spends every evening watching T.V. See also 2.5.
the practicing psychotherapist, but it does not provide a definition which is applicable to man in general.

A second manner in which psychological health is often defined is in terms not of an actual, existing norm, e.g. the “average” well-adjusted individual in a particular social setting but in terms of an “ideal” norm, e.g. the “most successful” or the “most popular” or the “most holy” exemplar. Normatively, of course, some gain is made over “adjustment” as a criterion; even so, Maslow insists, essentially the same objections should be raised because these norms are still determined from outside the individual. Not only do different cultures, societies and groups differ in what is considered “normal” behaviour to which the well adjusted member should adapt, but when it comes to ideal norms, these are also found to differ, depending on different philosophies and ethical systems.

2.3 GROWTH MOTIVATION AND DEFICIENCY MOTIVATION

The foregoing boils down to the general argument that, by relying on outside criteria, an absolute, universal definition of psychological health cannot be given. This does not, of course, automatically imply that some other criterion yields a more practical result; it might be quite possible that “psychological health” in the sense of an absolute, universally applicable concept just does not exist. It may be that everyone has to “figure out his own salvation”, dependent on his own particular innate capacities, on his own personality make-up and on the culture and the time in which he happens to find himself.

Now the point is that Maslow feels that psychological health defined as “a basic fulfilment of the deficiency needs” (1.6.2) is an absolute, universal concept, because he considers the basic deficiency needs to be universal, as we have discussed in section 1.3; furthermore he insists that it has the same practical meaning as such concepts as adjustment health and normative health.

To judge this second point, an answer is needed to the question of what, if anything, is the difference between an individual who is psychologically healthy, that is, basically gratified in his deficiency needs, and one who is not. If no difference could be shown to exist, then Maslow’s definition of psychological health would be devoid of practical meaning.

An individual who is not (yet) basically gratified in his deficiency needs is “deficiency motivated”; the psychologically healthy individual is “growth motivated”. Therefore, the question becomes one of the difference between

5 We have indicated at the time (1.3) that Maslow does not advance definite proof for the universality of the basic needs, but that he bases his conviction in part on his experience with their pathogenic nature.

6 “Growth motivated” is not to be understood in the sense of “motivated to grow-through-the-hierarchy”, but in the sense of “motivated by the growth needs”. See 1.5.2.
growth motivation and deficiency motivation. Maslow discusses this distinction at length, particularly in his later publications.

2.3.1 Differences in motivating states

“Practically all historical and contemporary theories of motivation unite in regarding needs, drives and motivating states in general as annoying, irritating, unpleasant, undesirable, as something to get rid of. (...) This approach is understandable in animal psychology and in the behaviorism which is so heavily based upon work with animals (...) [and in] Freudian psychology [which] is based upon experience with sick people. (...) This derogation of desire and need has... been a constant theme throughout the history of philosophy, theology and psychology.” (1955, pp. 10/11).

However, this negative, unpleasant feeling which is generally attributed to frustration in general is typical only, Maslow insists, of the deficiency needs, and not of the growth needs. It is typical for the growth needs that frustration of such needs, in contrast to frustration of deficiency needs, creates tensions which are experienced as pleasant rather than unpleasant; it is typical for the growth needs “that these impulses are desired and welcomed, are enjoyable and pleasant, that the person wants more of them rather than less and that, if they constitute tensions, they are pleasurable tensions”.7 (1955, p. 12).

Thus, one distinction between deficiency motivation and growth motivation which Maslow identifies is found in the difference in the quality of the motivating states which are determined by either group of needs.

2.3.2 Differential clinical effects

Closely related to the foregoing is the difference in the effects of deficiency motivation and growth motivation: not only the quality of the motivating states, but also the quality of the pleasures derived from gratification of both kinds of needs are different. Whereas deficiency need fulfilment merely produces a feeling of relaxation, of relief, of loss of tension, growth satisfaction is continuous and active; the activity is satisfying in itself. In psychologically healthy individuals “gratification breeds increased rather than decreased motivation, heightened rather than lessened excitement. The appetites become intensified and heightened. They grow upon themselves and instead of wanting less and less, such a person wants more and more of, for instance, education. The person

7 “I really do not know, dear Cornelis, how it is that, contrary to what is usually the case, being constantly occupied with literature causes me no aversion but rather a craving and a particular application; the desire to write grows while writing...” Erasmus (1489, p. 24. Transl. by the present author).
rather than coming to rest becomes more active. The appetite for growth is whetted rather than allayed by gratification. Growth is, in itself, a rewarding and exciting process, e.g., the fulfilling of yearnings and ambitions, like that of being a good doctor; the acquisition of admired skills, like playing the violin or being a good carpenter; the steady increase of understanding about people or about the universe, or about oneself; the development of creativeness in whatever field, or, most important, simply the ambition to be a good human being.” (1955, p. 14).

2.3.3 Self-actualization is idiosyncratic

A further difference which Maslow points out is that, whereas the deficiency needs are “basic” in the sense of being “shared values”, of being universally the same for all mankind (1.3), self-actualization “is idiosyncratic since every person is different.” (1955, p. 17). This must be understood in the sense that, while the variation in behavioural acts motivated by the deficiency needs is situationally determined (1.2.1, 1.2.2), the ways in which self-actualization is effected depends to a larger extent on the person’s intrinsic capacities and preferences.

As we have seen, the deficiency motivated person is dependent on the environment — other individuals — for gratification of his needs. (1.5.1.4). He is, as it were, the dependent variable. “In contrast, the self-actualizing individual, by definition gratified in his basic needs, is far less dependent... far more autonomous and self-directed.” (1955, p. 18). His motivations are to be found in himself.

2.4 The Self-Actualizing Personality

The foregoing discussion may suffice to illustrate some of the differences between deficiency motivation and growth motivation.8

By way of finding more conclusive support for the usefulness of a concept of psychological health based on the relative fulfilment of the deficiency needs, Maslow does not restrict himself to merely pointing out qualitative differences between growth motivation and deficiency motivation.

The psychologically healthy individual is actually operating at the top of the hierarchy, as it were, and the basic needs which determine his motivational life are therefore the needs for self-actualization. Accordingly, as a manner in which to study psychological health directly, Maslow studies a number of individuals whom he identifies as “self-actualizers”.

8 For a more inclusive treatment, see 1955, pp. 10-25.
2.4.1 The study of self-actualizing individuals

Before we discuss the results of that study, it is necessary to devote a little space to the method followed, and specifically, to a discussion of the way in which the subjects for the study were chosen.

The definition of a psychologically healthy individual as an individual who is no longer deficiency need oriented but rather growth need oriented, is clear enough from the point of view of the theory on which it is based, but in practice it does not, of course, pass muster as an operational definition. Therefore, an iterative method was used to overcome this difficulty.

The basic idea of the iterative method is to turn tentative conceptions gradually into more and more operational definitions by alternatingly selecting more and more adequate subjects on the basis of these definitions.

In this case, two groups of subjects were selected, one group “high” and the other group “low” on such criteria as neuroses or other psychopathogenic tendencies, as well as on positive evidence of self-actualization, “loosely described as the full use and exploitation of talents, capacities, potentialities, etc.” (1954, p. 200). By comparing the individuals in both groups clinically, the initially vague criteria were sharpened down and subjects for the two groups reselected, whereby some subjects were dropped and some others were added. Repeating this process, studying the subjects not only clinically but, whenever possible, also experimentally and statistically, eventually resulted in more and more exact and operational criteria.

Obviously, such a procedure, especially when followed by one single researcher on his own (as was the case here), offers ample opportunity for all kinds of bias to get into play; accordingly, Maslow’s study has been criticized severely on this score. Very emphatically, Maslow himself warns that the results “cannot be considered reliable until someone else repeats the study” (1955, p. 8); “there is only this one study of mine available. There were many things wrong with the sampling, so many in fact that it must be considered to be, in the classical sense anyway, a bad or poor or inadequate experiment. I am quite willing to concede this — as a matter of fact, I am eager to concede it — because I’m a

9 See also 1954, p. 26 n. and p. 201, and 1965 pp. 74/75.
1 e.g. McClelland (1955, p. 33): “One cannot avoid the suspicion that subjects will be chosen whose values will be congruent with those of the person who chooses them or, at the very least, of the culture of which he is a member. Who has the right to pick extraordinarily self-actualized people — Maslow, St. Paul, or Mao Tse Tung? Whatever the answer to such a question, I feel sure that they would nominate different sorts of people and that, if psychologists analyzed the nominees, we would have some conflicting conclusions as to what the motives are which lead to maximum psychological health”. See also Weisskopf (1959, p. 211).

As a matter of fact, the agreement between the characteristics of self-actualizing
little worried about this stuff which I consider to be tentative being swallowed whole by all sorts of enthusiastic people, who really should be a little more tentative, in the way that I am. The experiment needs repeating and checking — it needs working over in other societies — it needs a lot of things which it doesn't yet have.” (1965, pp. 55/65).

The report of the study was ready by 1943, “but is was seven years before I summoned up enough courage to print it.” (1954, p. xiii). That was some twenty years ago; especially in view of the results and the consequences thereof, it is quite surprising that, as far as we are aware, nobody has as yet taken up the challenge; it surprises Maslow too. (1959b, p. 17).

Notwithstanding his admission that the method used in selecting subjects for the study left much to be desired, and his urging that the study be repeated by others, Maslow has no doubts about the objectivity of his findings: “It appears to me ... that I am describing [these values] rather than inventing them or projecting them, or wishing for them ...” (1962b, p. 157).

Let us now take a look at the nature of these findings.

2.4.2 Characteristics of the self-actualizing individual

The study of self-actualizing individuals has uncovered a number of interesting characteristics of such individuals. Six of these we have chosen for discussion here, as being of particular relevance in the industrial setting.\(^2\)

2.4.2.1 Resolution of dichotomies

For ordinary people, life is a matter of constantly choosing between conflicting alternatives: between selfishness and unselfishness, between work and play, duty and pleasure, between being “mature” on the one hand and enjoying blissful, but immature, regression on the other.

A general characteristic of self-actualizing individuals is that such alternatives do, for them, not exist as such. As Maslow puts it (1954, p. 233; see also 1962b, p. 131): “The dichotomy between selfishness and unselfishness individuals and those of their “autor intellectualis”, as they appear from his writings, is rather striking, and it is surprising that no critic, as far as we are aware, has pointed this out. To spell out an analysis of this agreement here would go beyond the scope of our narrative; since we discuss some of these characteristics below, the reader will be able to make a rough check for himself. In our opinion, the agreement does not necessarily disprove Maslow’s contentions; it merely shows that Maslow is a self-actualizer himself. There is no harm in that but, with McClelland, one should like to be sure that St. Paul and Mao Tse Tung agree.

See 1954, Chs. 12, 13 and 14; 1957b and 1962b, Chs. 6, 7 and 10 for more comprehensive treatments of the subject; for a concise summing-up of all the characteristics Maslow mentions, see Cofer & Appley (1964, pp. 668-670).
disappears altogether in healthy people because in principle every act is both selfish and unselfish. Our subjects are simultaneously very spiritual and very pagan and sensual. Duty cannot be contrasted with pleasure nor work with play when duty is pleasure, when work is play, and the person doing his duty and being virtuous is simultaneously seeking his pleasure and being happy. If the most socially identified people are themselves also the most individualistic people, of what use is [it] to retain the polarity? If the most mature are also childlike? And if the most ethical and moral people are also the lustiest and most animal?"

That the contrast between opposites "does not exist" for self-actualizing individuals should not be understood to mean that Maslow's subjects did not perceive dichotomies. On the contrary, "it is possible for such a person to see more easily the intrinsic nature of the percept. He can perceive simultaneously the opposites, the dichotomies, the polarities, the contradictions and the incompatibles." (1955, p. 24).3

The most fundamental dichotomy, the resolving of which is basic to most of the characteristics of self-actualizing individuals, is the dichotomy between primary and secondary processes, between the unconscious and the conscious.

Maslow argues that the contempt in which the unconscious has been held "throughout human history and especially the history of Western civilization, and more especially the history of Christianity" (1958, p. 55), as well as the stigma which has been put on the unconscious by Freud, have both become obsolete. The unconscious, the primary processes, should be regarded neither as "evil" nor as "sick": "Out of the unconscious, out of the deeper self, out of this portion of ourselves of which we generally are afraid and therefore try to keep under control, out of this comes the ability to play, to enjoy, to fantasy, to laugh, to loaf, to be spontaneous." (1958, p. 51).4

In the self-actualizing individual, the unconscious is not suppressed and in his actions the primary and secondary processes are integrated: he is at once spontaneous and sober, playful and "wise"; he is the one "in whom the child and the Ancient of Days have equal parts".5

3 See also 1954, pp. 232-234. — Was it not Merton who coined the expression "intellectual squint" for this capacity of perceiving both sides of an issue simultaneously?

4 Here, once again, psychological health confronts adjustment health: "I am afraid that it is becoming more and more apparent that what we call a normal adult adjustment involves a turning one's back on what would threaten us... And what does threaten us is softness, fantasy, emotion, "childishness". " (1958, p. 52).

5 We shall see later (2.6.2, footnote) that the name of William Blake, to whom these words apply, turns up again when we discuss another aspect of self-actualization, and this is no coincidence.
2.4.2.2 Creativeness

A familiar way to discuss the interaction between the primary and the secondary processes is to do so in terms of regression; however, in contrast to neurotic regression, Maslow speaks of “voluntary regression” in the case of self-actualizing individuals, thereby indicating that the self-actualizing individual finds it easy, in a non-neurotic way and without fear of “loosing face”, to switch over from being only rational, “mature”, logical and strong, to being irrational, “childish”, illogical and soft. This makes the self-actualizing individual spontaneous, playful, fantastic, in one word: creative.⁶

Creativeness (which does not necessarily include the kind of creativity of persons endowed with special artistic talents) is the one most general characteristic of self-actualizing individuals. The self-actualizing individual even sees creatively, as the child does (1954, p. 223). By fusing the primary and the secondary processes, he has (as Prudentius) “the directness, the closeness to the object that is part of the physical necessity of childhood, and the experienced wisdom of old age”.

2.4.2.3 More efficient perception of reality

Self-actualizing individuals show a more efficient perception of reality: this does not only mean that they more easily detect spuriousness and dishonesty in other people, but also that in politics and public affairs, and in scientific and professional matters, they recognize essentials and see through confused and concealed issues more readily.⁷

⁶ A clinically well-known form of neuroticism as a defence against insecurity is, of course, the compulsive, who needs a minutely structured and at all times predictable world in order to be able to function. Not generally recognized as “neurotic” because better adjusted (2.2), but of the same kind, is the individual who prides himself (and is praised by others) for being orderly, logical, neat and methodical. (As such, Maslow identifies engineers and accountants, and the rubricizing kind — as against the pioneering kind — of scientist). Obsessive types of individuals find it hardest to regress, and playfulness, fantasy and creativity are usually found to a lesser degree among them than among average people.

(It all fits in: the present effort of bringing some system into Maslow’s pioneering work is — excepting the quotations — from the hand of an engineer, and it also seems that “quotation mania is a peculiar defence mechanism in our scientific battle for security”. (Meerloo, as quoted by Abbas, 1969, p. 425)).

⁷ The reader may wonder whether all this might not merely be a matter of intelligence. As a matter of fact, the question of a possible relationship between “psychological health” and intelligence is not discussed by Maslow anywhere. A suspicion that the self-actualizing individuals he selected were also of more than average intelligence is confirmed by one outright statement which, however, is merely made “in passing”, as it were (1954, p. 226); on the other hand, reference is made, just as nebenbei, to one of the subjects being an “uneducated woman”. (Ibid., p. 218 and 1962b, p. 128).
Since growth motivated individuals are *not* dependent on other people for their need gratification, their perception tends to be less biased: they are able to perceive the other person holistically, for what he *really* is.

More or less the same is true for other aspects of reality, for material objects and abstract ideas alike, for (new) experiences in general. For the deficiency motivated individual, dependent as he is on the world around him (*1.5.1.4*), everything that is new is basically threatening. A number of reactions to new stimuli is available to him to make the unknown less threatening: one of these is to rubricize, to categorize, in other words, to identify the new experience within an old and reliable frame of reference. Rubricizing has several advantages: it turns the unfamiliar into the familiar, it minimizes the amount of attention needed and it requires less effort than understanding. It is typically part of the mode of perception which Whitehead identifies as "presentational immediacy" ("immediacy perception"). (*1.1*).

Considered as a mode of perception, rubricizing is, of course, inefficient because it is incomplete: aspects and relationships which are *new* tend to be disregarded.

It is the "holistic" type of perception — "causal efficacy", ("meaning perception") — which is more typical for the self-actualizing individual.  

As the most fundamental characteristic of self-actualizing individuals we have mentioned the "resolving of dichotomies." (*2.4.2.1*). Resolving the dichotomy between the primary and the secondary processes means, with

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8 If we reconsider our discussion in the course of section *1.1*, we are seemingly confronted, at this point, with a paradox the solution of which, however, throws a strong light on one of the basic characteristics of self-actualizing individuals.

At the time (*1.1*) we have explained Whitehead's position to the effect that "causal efficacy" — or, in Maslow's terminology: holistic-dynamic perception — is a more primitive, evolutionary a less advanced mode of perception, while it is characteristic for *man* that he has the ability for "presentational immediacy" — or reductive-analytic perception.

*Now* we learn that the self-actualizing individual — if the concept of psychological health makes sense, he himself the most fully evolved human being — is characterized by holistic-dynamic perception or "causal efficacy" (or "meaning perception", in Wilson's clearer terminology).

The solution to this seemingly contradictory position is to be found, we think, in that other characteristic of this "most fully evolved human being", namely his ability to "regress voluntarily". (*2.4.2.2*). In the last footnote but one we have mentioned that, according to Maslow, engineers and accountants, and the more safe-playing, rubricizing scientist, find it most difficult to regress; therefore "presentational immediacy" is the typical mode of perception of the technologist (we have shown in section *1.1* how this accounts for the success of Western technology) rather than of the self-actualizing individual.

The self-actualizing individual, by "regressing voluntarily", retains (or retrieves) the more "primitive" mode of perception. This, we think, is the solution of what seemed to be an inner contradiction.
respect to perception, integrating the two modes of perception (neither of which, according to Wilson (1.1), “is of much use without the other”). This is exactly what the self-actualizing individual is doing, which in turn is the reason for his more efficient perception of reality. Consequently, self-actualizing individuals “live more in the real world of nature than in the man-made mass of concepts, abstractions, expectations, beliefs, and stereotypes that most people confuse with the world”. (1954, p. 205). Also, being less dependent on others for their need fulfilment, the perception of self-actualizing individuals tends to be less coloured by needs, fears and the “usefulness” of others than is the case for ordinary, deficiency motivated individuals.

A characteristic of self-actualizing individuals which is closely related to the above, is their faculty to not only like new experiences, but also to encounter old and even repetitive experiences with a continued freshness of appreciation. The reason for this seems to be that, since self-actualizing individuals tend less to rubricize, each experience is less readily equated with a former one; the daily drive to work is a novel experience each time.

Needless to say that the intrinsic uniqueness even of “old” experiences makes life much more exciting for a self-actualizing than for an “ordinary” individual.

2.4.2.4 Problem centering

This subject is mentioned by Maslow in two different contexts; in the first place it was found that self-actualizing individuals were focussed on problems outside themselves rather than on internal problems. The individuals studied being psychologically healthy individuals by definition, such a finding, in itself, seems reasonable enough; of interest therefore is the further finding that these extra-personal problems tend to concern the more basic issues of life; even on a homely level, self-actualizing people “live customarily in the widest possible frame of reference”. (1954, p. 212).

In the second place, “problem centering” is contrasted to “means centering”; self-actualizing individuals seem to have no trouble distinguishing “means” from “ends” — as is so often seen in people with a more restricted outlook; on the deficiency need level, “ends” tend to be forgotten in favour of “means”, which, as they gradually become “familiar ways of doing things”, obtain a very definite security value. At the same time, however, self-actualizing individuals confuse the issue by enjoying even repetitive “means” for their own sake and giving them an end-value of their own (as we have seen in the previous section). To illustrate this contrast: a deficiency oriented bookkeeper may see a neat account-book as an end in itself and disregard the fact that an account-book is only a means towards a wider goal: keeping track of the company’s finances.  

9 The Dutch reader will recognize the shocking results to which this type of delusion
On the other hand: an amateur gardener may actually enjoy working himself into a sweat, breaking the ground two spades deep while preparing a new plot for planting. His roses are his goal, but the digging is enjoyed for its own sake.

2.4.2.5 Democratic character structure

Because of their more efficient perception of reality (2.4.2.3), self-actualizing individuals show "an unusual ability to detect the spurious, the fake, and the dishonest in personality". (1954, p. 203). This is one of the reasons why they are "democratic" in a very essential sense: as a matter of course, they appreciate anybody who does a good job according to his capacities; they have a very real regard for a good carpenter ("from whom one could learn a thing or two"), but they have no use for those whose fame is based on mere money or birth, or on sheer authocratic power. Superiority is, to the democratic personality, a relative concept in the sense that he will judge a certain individual on the basis of his manifest capacities, whatever these may be; individual A may be superior to B in one respect, but inferior to him in another.

This fits in well with the findings of a study — undertaken by Maslow during the war years — of the authoritarian character structure. (1943b; see also 1954, Ch. 3). In contrast to the more holistic manner of perception of other people "for what they really are", as described above, the authoritarian personality tends to perceive others more in a deficiency oriented way, in terms of what the other "means" to him.

And in this respect, the authoritarian divides people up into two categories: those who are weaker than himself, and those who are stronger. Therefore, his perception is a matter of rubricizing in terms of one single absolute criterion: power; individual A is "superior" to B if A has greater power than B. Nor is the perception of the authoritarian less efficient in this sense only; it is also less efficient in the sense that it is perception in terms of extremes: if in a position of power, the authoritarian tends to "lord it" over his subordinates; if in the inferior position, his submission may border upon the ecstatic. Furthermore, gratification of the (deficiency) need for security is typically provided by compulsive routines, order and discipline.¹

¹ All this means, then, that in terms of psychological health, the authoritarian is not merely not healthy, but that he is actually sick. Maslow is very explicit on this point: "I learned very early to think of [authoritarian people] as sick people. The fact that their sickness did not match with any described by the psychiatrists simply made me sceptical about psychiatrists. (...) Their sickness is a character sickness; they have a sick philosophy of life, which is to say a false, incorrect one. It is understandable that they should have formed such a philosophy when we understand their
2.4.2.6 “Gemeinschaftsgefühl”

Since self-actualizing individuals, by definition, are less dependent on other people for their need gratification, they show an unusual degree of detachment and of autonomy. The detachment is strengthened by an ability for intense concentration — a consequence of more creative perception — and may cause absent-mindedness and create the impression of indifference; heightened autonomy may mean, that other people are not only less needed, but even that they may actually be experienced as impeditives.

The foregoing may convey the impression that psychologically healthy people are selfish and — like Peer Gynt — “enough unto themselves”. In fact, this is not the case: actually a pronounced characteristic of self-actualizing individuals was, Maslow found, an intense “Gemeinschaftsgefühl” (in the Adlerian sense), a sense of being “at one” with the world. Though often exasperated and saddened by the human shortcomings, “in a very real even though special sense, they love or rather have compassion for all mankind”. (1954, p. 218). “They have a genuine desire to help the human race.” (Ibid., p. 217). And this kind of deep identification does not occur in this general, abstract sense only; also in their relations with other people are self-actualizing individuals more intense. Understandably, the friendship circle is rather small, and these few close friends are relatively more healthy people, with whom this type of relationship is possible.3

2.5 REGRESSIVE TENDENCIES

The foregoing discussion of the characteristics of self-actualizing individuals which has brought to light some of the characteristics of the end-product of psychological growth, and thereby of the nature of this growth itself, naturally begs the question of why so few people actually do grow all the way, why so few people actually attain this level of psychological health. Maslow writes (1959a, p. 132; 1962b, p. 153/154): “I have the clear impression that such authentic, fully human persons are the actualizations of what any human being could be. And yet we are confronted with the sad fact that so few people jungle childhood. But their jungle philosophy doesn’t change even when they grow up and come out of the jungle. It resists new facts. It is sick because it reacts to an outgrown past, rather than to the real present.” (1957a, p. 130).

2 “Remember your epiphanies on green oval leaves, deeply deep, copies to be sent if you died to all the great libraries of the world, including Alexandria? Someone was to read them there after a few thousand years, a mahamanvantara, Pico della Mirandola like. Ay, very like a whale. When one reads these strange pages of one long gone one feels that one is at one with one who once . . .” (Joyce, 1922, p. 41).

3 Compare this autonomous kind of interpersonal relationship with the dependent kind which is characteristic for deficiency motivated individuals.
achieve this goal, perhaps only one in a hundred, or two hundred. We can be hopeful for mankind because in principle anyone could become a good and healthy man. But we must also feel sad because so few actually do become good men."

The reasons for this being so, are many and various; we summarize here a few of the more obvious ones which Maslow discusses.

To begin with, growth may, of course, be blocked by unfavourable conditions, i.e. conditions under which one or more of the deficiency needs remain chronically unfulfilled; adverse conditions of an extreme nature may even cause regression to the lowest levels. 4

A special kind of basic need frustration which is not generally recognized as such is spoiling; by withholding from the child the consistency of clear rules which it needs to structure its conduct, the child is deprived of gratification of its basic security needs. This will stunt its psychological growth; apart from that, unbridled gratification of all kinds of incidental needs will be the cause of character disorders which will discourage growth: irresponsibility, inability to cope with disappointment, a persistent tendency to perceive others as means-to-ends, etc.

Apart from external conditions which may (and usually do) hinder growth, Maslow postulates a more fundamental internal tendency which acts as a perpetual counterforce against growth. While it is pleasant and rewarding to grow and to reach out to new satisfactions, it also takes courage to do so; it can also be very blissful to regress to the well-known gratifications. As Maslow puts it (1959a, p. 134): "We can either move forward to a "high Nirvana" or backward to a "low Nirvana"". It are, of course, the basic security needs which constitute the source of these internal regressive tendencies.

Growing, then, is "a never ending series of free choice situations . . . in which [the individual] must choose between the delights of safety and growth. ( . . .) Safety has both anxieties and delights; growth has both anxieties and delights. We grow forward when the delights of growth and anxieties of safety are greater than the anxieties of growth and the delights of safety." (1962b, p. 45). The individual can be helped to grow by helping him to tip the balance of these opposing pairs of forces in the desired direction.

A third reason which Maslow mentions for the sad condition that so few people manage to grow "out of" the deficiency needs, is that the growth needs are found at the top of the hierarchy of prepotency: they are less prepotent than

4 Davidson Ketchum (1964, p. 31) describes very suggestively the effects of sudden imprisonment: "What specifically did the men need beyond food, water, and shelter? Perhaps first of all to know what was going to happen to them . . ." — regression to the security level. A beautiful example in literary fiction of regression under adverse conditions is, of course, Golding's "Lord of the Flies". (Golding, 1960).
the deficiency needs to such a degree that they are easily drowned out by unsuitable environmental forces. They are the most "dispensable" needs, the needs that only manifest themselves under conditions of affluence. This is the reason why the adverse conditions discussed above are so influential; growth tendencies do exist in principle, but they are so weak that they disappear all too easily.

2.6 Scientific Basis for Ethics

In the foregoing pages we have discussed some of the potential characteristics of man, what man, once he has reached the apex of his psychological development could (and in a minority of cases does) look like. Also, we have seen what the prerequisites are for reaching this state of development.

Maslow points out that throughout the ages and in all cultures, man has been concerned about exactly these same things: about questions as to what man should aspire to, and how he should go about fulfilling these aspirations; the basic questions of ethics, in fact.

Answers to these questions have always been derived from two different sources: either from man's own nature (humanistic ethics, best exemplified by the works of Spinoza) or from some authority outside of man (religious ethics). In the first case, of course, the problem used to be that so little was known (beyond the "common observation" level) about man's inner nature. This was no problem in the second case; but it will be realized that all the various value systems which have been developed anywhere and at any time labour under the problem of subjectivity.

Another problem with value systems, especially those based on authority of one sort or another, has always been the confusion between means and ends, which, as we have seen (2.4.2.4) occurs on the level of deficiency motivation — which happens to be the level on which most people function. We "ordinary" people find it easier, because it is safer, to adhere to concrete rules of conduct set us by others (2.4.2.3) to whom we leave it to define the more abstract goals; and in particular do we tend to mistake such rules for ends in themselves when the goals are no direct reflections of our own — deficiency need oriented — inner nature. As a consequence, it may be a far cry from the original value system as it was initially adopted, to the doggedly adhered-to rules of conduct which eventually replace it — and which, paradoxically, give ample leeway for behaviour which violates the original values.

As a solution to this unsatisfactory state of affairs, Maslow now advances the proposition that it would be possible to construct a theory of human values in an objective way: "I believe... that I can find ultimate values which are right

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5 Religious intolerance — security need motivated — is a case in point.
for mankind by observing the best of mankind. If under the best conditions and in the best specimens I simply stand aside and describe in a scientific way what these human values are, I find values that are the old values of truth, goodness, and beauty and some additional ones as well, for instance, gaiety, justice and joy." (1961, pp. 5/6). Studies of self-actualizing individuals will show what conditions should be like, what people should do and not do, in short, will lead to an objective value system. Such a value system would be objective since the basic needs, from (the fulfilment of) which it derives, are "shared values", identical for all mankind regardless of time, culture, or race. (1.3).

Because Maslow maintains that all the basic needs are instinctoid, and not, contrary to common belief, merely the "lower" ones, the situation would not be one where the "animal" man is confronted with "higher values", but the situation would be such that these "higher values" are as much part of man's inner nature as are the "lower" drives and needs. Consequently, it should be unnecessary to derive these values from an "invented" system of ethics: "It means, for one thing, that it is no longer either necessary or desirable to deduce values by logic or to try to read them off from authorities or revelations. All we need do, apparently, is to observe and research. Human nature carries within itself the answer to the question, How can I be good?, How can I be happy?, How can I be fruitful? The organism tells us what it needs (and therefore what it values) by sickening when deprived of these values." (1954, pp. 152/153).

Now it is, of course, all very well to derive a value theory from what we can learn from man's ultimate goal: self-actualization, but it would seem that we must still resign ourselves to the fact that as it is, "psychological health" is a far cry from reality for most people, a goal which they may aspire to but which they will never reach and which a good deal of people simply do not and cannot aspire to for the simple reason that they are too neurotic — to much "stuck" in one or another deficiency need. How can one be sure that what are the best values for psychologically healthy individuals, are, at least in the long run, also the best rules and conditions for everybody and hence for Society as a whole?

2.6.1 "Superior choosers"

In support of the view that the psychologically healthy individual not only represents the "absolute values" for all mankind, but that on top of that these values are also the best ultimate values for less healthy individuals, Maslow (1959a, p. 121) cites the choice experiments by Dove (1935) with chickens. It was found that chickens vary widely in their ability to choose the diet which is best for them, the "good choosers" showing their superior ability by becoming stronger and healthier. But it was also found that when "bad choosers" were put on a diet which was the same as the diet chosen by the good choosers, the
bad choosers would become healthier themselves; without, however, quite reaching the level of health of the superior choosers.

If more general support could be found for these findings, the conclusion would be justified that: "so far as human value theory is concerned, no theory will be adequate that rests simply on the statistical description of the choices of unselected human beings. To average the choices of good and bad choosers, of healthy and sick people is useless. Only the choices and tastes and judgements of healthy human beings will tell us much about what is good for the human species in the long run." (1959a, p. 121). From investigations of the "choices" of psychologically healthy people, Maslow insists, it should be possible to derive a value system which is absolute, objective, and universal.6

The "superior choosers", as it were, are to pick the diet also for the "bad choosers".7

2.6.2 Peak-experiences

In the foregoing discussion, everything depended on the self-actualizing, the psychologically healthy individual. So far, we have treated — with Maslow — psychological health as a comparatively absolute concept. This was not done merely for the sake of argument, for greater clarity of exposition: Maslow's point is that psychologically healthy individuals, in a fairly absolute sense, do exist, and it was through a study of this type of individual (2.4) that Maslow came to evolve the views which we have discussed in the foregoing sections.

We know that Maslow himself has repeatedly pointed out that the study of self-actualizing individuals leaves much to be desired (2.4.1), and we have also seen that "psychological health" is, for various reasons, in short supply (2.5). Because both conditions would naturally lead to the conclusion that Maslow's concept of psychological health is merely of academic interest and therefore of not much practical value, we must pay some attention to yet another aspect of psychological health, an aspect which Maslow invariably encountered in self-actualizing individuals but not only there.

Maslow found that his subjects reported experiences such as are well known from the mystic-theological literature and which have first been described in the psychological literature by William James (1902): "mystic" experiences, feelings of wonder and awe, of unity between the self and the world, "oceanic" feelings in Freud's later terminology. These experiences fit in well with the characteristics

6 Of course, preliminary ot this, the nature of "psychological health" itself should be established objectively. As it is (2.4.1), it is as yet too easy to accuse Maslow of playing Spinoza in a roundabout way.

7 One reason why (human) "bad choosers" are bad choosers would seem to be their less effective perception of reality (2.4.2.3); as Maslow puts it (1954, p. 204): "The neurotic is not only emotionally sick — he is cognitively wrong!"
of self-actualizing individuals (2.4.2), since Maslow found them to be strong intensifications of these characteristics: an intense "holistic" perception, an all-encompassing "Gemeinschaftsgefühl", an extreme concentration of perception, and so on.

Maslow calls these phenomena "peak-experiences", and devotes several chapters and papers to a detailed study of them. (1962a; 1962b, Chs. 6 and 7; 1962c).\(^8\)

Now the reason why these peak-experiences are interesting from a practical point of view, is that they are, as Maslow points out, also quite commonly found in ordinary people. Though it can be said that self-actualizing individuals live on the level of the more or less intense peak-experience most of the time, the same transient states of psychological health, of self-actualization, are also experienced by other individuals. This, Maslow argues, makes psychological health less of an all-or-none affair; growing towards, but probably never attaining self-actualization, "ordinary" individuals are rewarded from time to time by being there for a short moment.\(^9\)

Thus, the values of the "ordinary" individual in his "best moments" are the same values as those of the human species in its "best exemplars".

2.6.3 The basic values

The reader will now be interested to learn what the "diet" of basic values looks like which is picked by the "superior choosers", the self-actualizing individuals.

It must be remembered that Maslow does not claim to have constructed a value theory, but that he only claims that, on the basis of the concept of psychological health as he defines it, it will be possible to do so.

Even so, a beginning has been made by listing the characteristics in terms of

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\(^8\) A side-issue which we find quite fascinating is the agreement between Maslow's description of these peak-experiences and psychedelic experiences. Huxley (1954) is one of the first to have described (in a book the title of which is derived from a line by William Blake) the profound intensification of perception, the perception of the essence of things when under the influence of mescaline: "Visual impressions are greatly intensified and the eye recovers some of the perceptual innocence of childhood, when the sensum was not immediately and automatically subordinated to the concept." (Op. cit., p. 18). This, of course, reminds us of the resolving of the primary and secondary processes which we have mentioned in section 2.4.2.1.

It would seem to be no coincidence that the past decade, in which self-reliance, creativity and responsibility are developing as values, at least among the younger generation, also witnesses a general acceptance, by that same generation, of the hallucinogens.

\(^9\) Taft (1969, p. 57), who made a special study of peak-experiences, states that two-thirds of his subjects reported having had such experiences.
which psychologically healthy individuals perceive the world; these characteristics are found to be the same as those which apply to self-actualizing people themselves and to their preferences; they are also found to be the same as the terms in which descriptions of the surrounding world are given in reports of peak-experiences by “ordinary” people.

It should be realized, when judging this list of values, that “the contrast with our ordinary cognitions and reactions is very sharp” (1962b, p. 77), because “ordinarily we proceed under the aegis of meansvalues... We evaluate, control, judge, condemn or approve. We laugh-at rather than laugh-with. We react to the experience in personal terms... thereby making the world no more than means to our ends. (..) We perceive then in a deficiency motivated way and can therefore perceive only D-values.” (Ibid.). On top of that, this deficiency motivated manner of perception is constantly reinforced by the economic and technocratic value systems which are our daily fare; some readers will therefore, at first, have difficulty recognizing the practicality of such non-quantitative values as the following (1962b, p. 78; 1962c, p. 54/55):

— wholeness (unity, integration)
— perfection (just-right-ness, suitability)
— completion
— justice (orderliness, lawfulness)
— aliveness (process, spontaneity)
— richness (differentiation, complexity)
— simplicity (honesty, essentiality)
— beauty
— goodness (“oughtness”)
— uniqueness
— effortlessness (lack of strain, perfect functioning)
— playfulness
— truth, reality
— self-sufficiency (autonomy)¹

Possibly, the significance of this set of values will occur to the reader if he tries, by way of exercise, to check for himself to which extent he feels that the following subjects can (and should be) discussed in terms of these values:

— Art (including the psychological health of the artist)
— Conditions for learning, education
— Goals of psychotherapy, of education in general
— Mathematical demonstrations
— Working conditions

¹ In reality, these value-units overlap considerably (as they should, having been come by holistically); we have abstracted the descriptions in order to bring out their essence more sharply.
2.6.3—2.7

— Tools and industrial products (again including the psychological health of their designer)
— Any form of religion. ²

2.7 EUPSYCHIAN MANAGEMENT

In the chapters which follow (Part II), we apply Maslow's theory of motivation, which we have discussed in Chapter 1, to the industrial situation; at this point, we round off Part I with Maslow's own views on that situation in the light of what we have discussed so far in the present chapter.

As a preliminary, we shall have to speak of the concept of "synergy".

The most general characteristic of psychological health, as we have seen (2.4.2.1), is that in the self-actualizing individual the usual dichotomies are resolved, those dichotomies which turn life for the ordinary, deficiency motivated individual into an ongoing stream of dilemmas and decisions (selfishness-altruism, pleasure-duty, work-play, etc.).

Dichotomies not only cause dilemmas on the intra-individual level, but also with respect to the relationship between individual and society. The resolution of such dichotomies would amount to having a social situation in which an action on the part of an individual fulfills both his own needs and those of (certain other individuals in) the society of which he is a member.

Taking the selfishness-unselfishness dichotomy for an example (but it would also apply to work-play, duty-pleasure and all other dichotomies in the same manner), it would mean that for the individual a selfish act and an altruistic act are one: if doing something for the common good is pleasurable in itself, then giving pleasure and seeking pleasure have become identical.

Now, in such cases there are two prerequisites which must be fulfilled for this resolution to work out: for one thing, doing something for the common good must be satisfying to oneself. The resolution of this dichotomy is, as we have seen, a matter of psychological health, and in this case it depends in particular on basic gratification of the social needs.

But the other thing must hold true also: doing something for one's own good (fulfilling one's own needs) must satisfy others; in other words, there must be means by which the individual, by pleasing himself, pleases others at the same time.

In Western societies some such means are, as a rule, available, e.g. in the form of philanthropic institutions; even though such institutions form no integrated part of society, the latter would be qualitatively different if these institutions did not exist.

² Cf 1962c, pp. 55/61; typically, Maslow considers that "a combination of Zen and Tao and Humanisme" (sic) would best fulfil the values listed.
A special case, however, of a means for resolving the dichotomy between selfishness and altruism is the presence of certain mechanisms which are built into the very fabric of the society and which fulfil the same purpose. Maslow (1964, p. 157; 1965, p. 20) gives an example of such a mechanism in the "Giveaway" during the Sun Dance ceremony of the Blackfoot Indians.\(^3\)

The Giveaway promotes the equal distribution of wealth in the community; in sharp contrast to what is the case in our Western cultures, a rich Blackfoot is not "rich" — and therefore honoured and/or envied — because he owns so much, but because he has distributed so much wealth at the Giveaway. Through this mechanism, the Blackfoot has the opportunity to indulge, in an institutionalized manner, in the selfish pleasure of working for the common good.

Maslow (1964) attributes the discovery of the essential meaning of these mechanisms to Benedict\(^4\) and in imitation of her, he applies the term "synergy" to this interplay of the goals of the individual and of society. An interesting point which Maslow mentions is that Benedict had discovered that high synergy societies were more secure societies, and this, of course, is in good accord with the fact that synergetic mechanisms are, in Maslow's frame of reference, "psychological health" mechanisms.

Western societies may be considered, as a rule, as societies of mixed synergy; Maslow (1964, p. 160) points to the system of progressive income tax as an instance of a wealth distributing mechanism.

The reader who is familiar with the management literature will recognize the concept of synergy as being identical to what McGregor (1960, p. 49) calls "integration": "the creation of conditions such that the members of the organization can achieve their own goals best by directing their efforts toward the success of the enterprise".

The similarity is not a mere coincidence, since "integration" is the central principle which McGregor derives from his Theory Y, and (what does not seem to be generally recognized) Theory Y is directly based on Maslow's theory of motivation.\(^5\) Maslow, by the way, realizes as much, since he notes (1965, p. 55): "After all, if we take the whole thing from McGregor's point of view of a

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\(^3\) Comparable ceremonies in different societies have, of course, been described by cultural anthropologists.

\(^4\) Referring to an unpublished series of lectures given in 1941.

\(^5\) In the Introduction we have already mentioned that, wherever Maslow's need hierarchy is being discussed, this is often done without reference to its author. The cause of this rather remarkable fact seems to lie with less careful readers of McGregor, whose Theory Y is a stock-in-trade of every writer on management. The case, we think, is of sufficient interest to be unravelled here.

Bennis & Schein (1966, pp. 3-20) reprint a paper by McGregor, originally published in 1957, which leads up to an exposition of Theory Y. Preceding this exposition we
contrast between a Theory X view of human nature (sic), a good deal of the evidence upon which he bases his conclusions comes from my researches and my papers on motivations, self-actualization, etc."

It is customary, when discussing Theory Y-type management philosophies, to do so in terms of the ultimate pay-off for the organization (we are not insinuating that this applies to McGregor himself!). The employee must be motivated to produce more and better, not to stay away from the job, etc.; and the way to effect this is to realize that, in the highly industrialized countries, people can no longer be motivated by the "lower" needs. The real motivators are the esteem needs and the needs for self-actualization. As Argyris (1957) puts it, treating employees as children will produce children (and spoilt children at that); the thing to do is to treat employees like grown-up people, giving them responsibility, a chance to deploy their full capacities and so on. This is sound management policy; it will (and has been shown to) pay off in terms of higher productivity, more goodwill, less turnover, etc.; it will make employees happier people; finally, it is in accord with Maslow's theory of motivation.

Especially in connection with this last aspect, it is interesting to hear Maslow's reactions to these management theories (and to industry as a field of application of psychological theory in general). On the one hand, his reaction is one of caution; on the other, he carries the implications of these management principles further than any of the management theorists have done so far.

Since, as Maslow points out, stressing the "higher" needs as motivators has a certain "ethical" ring in itself, the presumptions on which the theory is based tend to be forgotten; the new management principles tend to be considered intrinsically "good" and therefore generally applicable. In the first place, Maslow cautions, conditions are not always and everywhere such that the "lower" needs are chronically fulfilled. In principle, such conditions exist to a certain extent in the United States (where Maslow excludes the Negro worker in this respect) and in most of Western Europe, and even there it should be realized that the balance between growth and (neurotic) regression is a delicate

read (op. cit., p. 8): "In discussing this subject I will draw heavily on the work of my colleague, Abraham Maslow of Brandeis University. His is the most fruitful approach I know." After these lines follows a concise discussion of the hierarchy of basic needs.

This particular paper may have remained relatively unknown (though it was reprinted, also in 1957, in "The Management Review" (McGregor, 1957); McGregor's best known publication is, of course, his only book: "The human side of enterprise" (McGregor, 1960), and in that book the reference in the text has been deleted and been replaced by a reference to Maslow (1954) in the bibliography at the end of the chapter. The result of this has apparently been that most people who cite Theory Y cite the hierarchy of basic needs as if it were part of Theory Y, and therefore omit to mention its real source. (Exceptions, we find, are Beer (1966) and Lawrie (1967)).
balance, easily tipped in favour of regression when, for instance, bemuddled company policies raise the level of anxiety. (1965, pp. 42, 43; see also 2.5).

Another point which Maslow makes is that we simply know very little about the number of “neurotics” in any given society. As Maslow defines neurotics as individuals who do not grow, who are stuck at some level in the deficiency needs (1.6.2), it is clear what is meant: we should realize that a certain number of people is stuck with some deficiency need, people who therefore will not be motivated by the growth needs, regardless of how favourable the conditions; on the contrary, these people will be thrown into states of anxiety by such conditions, and we do not know how many more or less neurotic people there actually are.

The same is true for another category of which a few things have been said previously (2.4.2.5), the authoritarians, those who perceive society (and any organization they work in) as a jungle of dominators and dominees; these people prefer to be told what to do and will only respond with contempt to a Theory Y-type supervisor. Maslow makes short work of authoritarians as far as Theory Y is concerned: “Authoritarians must be excluded or they must be converted” (1965, p. 28); it is impossible to apply Theory Y to this type of personality unless they are gradually broken in on their own terms. And just as with the neurotics, it is simply not known how many authoritarians there are.6

The same is true for those “reduced to the concrete, [who find] planning for the future totally incomprehensible and boring” (1965, p. 54) and who therefore simply are not interested in responsibility, or planning their own work, at all: “the fact is that a certain proportion of the population cannot take responsibility well and are frightened by freedom, which tends to throw them into anxiety, etc. This has been noticed often enough by the clinicians, but the management people apparently are not used to thinking that way yet.” (1965,

6 By the look of things, we would venture the opinion that there seem to be plenty, and that the correlation between the number of authoritarians and conditions favouring a Theory X-type of (political) management is evident when various countries throughout the world are compared.

Even the “democratic” countries should not be too self-glorificatory in this respect: this very matter of the quantity of authoritarianism (be it the number of authoritarians or the comparative degree of authoritarianism in the “men at the top”) is an interesting example of an anti-synergy mechanism in democratic societies. The sheer amount of personal initiative and energy which is required from anybody running for a position of leadership, constitutes a selection mechanism which favours the aggressive, authoritarian character who is highly motivated for power; hence the seemingly controversial fact that democracies are in no way less aggressive societies — they are being led by aggressive types of leaders — and hence the fact that “even” in democracies, eupsychian, i.e. health-fostering management can only slowly develop, and indeed develops only by steadfast pushing from below. (Which is what is currently happening “all over the place”, in “democratic” and “authocratic” countries alike). See also 1965, p. 125.
Again, what is the relative number of those who are “reduced to the concrete”? Apart from such misgivings regarding the applicability of Theory Y, Maslow also has objections against Theory Y-type management policies because, as a humanist, he finds these to be too restricted as to their effect.

The effects of management policies are of two kinds: the effects for the company, expressed in economic terms such as productivity, turnover, waste, etc., on the one hand, and the effects on the employees, expressed in terms of well-being, on the other. Applying Theory Y means establishing a synergic relationship between the two.

Maslow argues that all these effects are short-term effects, and it is this aspect even of Theory Y which leaves Maslow unsatisfied: “I’ve seen very few of these managers or writers on organizational theory who have the courage to think in far terms, in broad-range terms, in utopian terms, in value terms. Generally they feel they’re being hard-headed if they use as the criteria of management success or of healthy organization the criteria of smaller labor turnover or less absenteeism or better morale or more profit or the like.” (1965, p. 40).

Sorokin (1959, p. 9) points out that “the average longevity ... of big business firms (listed on English, Swiss, American stock exchanges) [is] only about 27 years”. If one wishes to manage for a longer period than that (and it may be assumed that most managers, when asked, would answer that that is what they do wish), one should, Maslow insists, take two things into account. In the first place, there is the synergic relationship with the community as a whole; secondly, there is the psychological health of the employees. The first is obviously a long term asset. With regard to the latter we have discussed, in section 2.4.2, the characteristics of the self-actualizing individual. These are also clearly long term assets: they make the self-actualizing individual more valuable, not only as a person, but also as a member of the organization.

If we summarize Maslow’s misgivings and objections in a few words, they mean that Theory Y is too static — it does not sufficiently take into account the dynamic nature of the theory of motivation upon which it is based — and that its pay-off is of a too restricted nature.

As an alternative against a Theory Y-type management philosophy, Maslow offers a management philosophy for which he has coined the name “eupsychian management”.

7 and a few others as well; the reader will find an extensive discussion of assumptions which are implicitly made by modern management theorists in 1965, pp. 17-33. 8 The adjective derives from the name for a “psychological Utopia in which all men are psychologically healthy” (1954, p. 350), a “culture that would be generated by
The adjective “eupsychian” means “Theory Y”, “synergic” and “fostering psychological health” all in one; it can — or rather should be — used not merely in connection with (industrial) management, but also in relation to economics, the army, politics, education, therapy etc., as well.

Eupsychian management, obviously, takes Theory Y for granted, but it goes further; according to Maslow, one of the things that management (or education, or therapy, etc., etc.) should do, is to create the conditions which enhance the psychological health of the employees (or the students, the patients, etc.). And Maslow insists that this is not merely a duty, in the case of industrial management, towards the members of the organization, but also towards the community of which the organization is a part. In this respect industry is under the same obligation as a school or a hospital. After all, the company benefits from such health-fostering organizations elsewhere in the community in the sense that it benefits from its products: healthier employees. And if industry merely repays society in the form of its products, it is as it were converting psychological health into material goods: “In effect any company that restricts its goals purely to its own profits, its own production, and its own sales is getting a kind of a free ride from me and other taxpayers. I help pay for the schools and the police departments and the fire departments and the health departments and everything else in order to keep the society healthy, which in turn supplies high-level workers and managers to such companies at little expense to them. I feel that they should, in order to be fair, make more returns to the society than they are making — that is, in terms of producing good citizens, people who because of their good work situation can themselves be benevolent, charitable, kind, altruistic, etc., etc., in the community.

“I am impressed again with the necessity, however difficult the job may be, of working out some kind of moral or ethical accounting scheme. Under such a scheme tax credits would be given to the company that helps to improve the whole society, that helps to improve the local population, and helps to improve the democracy by helping to create more democratic individuals. Some sort of tax penalty should be assessed against enterprises that undo the effects of a political democracy, of good schools, etc., etc., and that make their people more paranoid, more hostile, more nasty, more malevolent, more destructive, etc. This is like sabotage against the whole society. And they should be made to pay for it”. (1965, p. 59).

1,000 self-actualizing people on some sheltered island where they would not be interfered with”. (1965, p. xi).

9 In the case of education, this eupsychian goal is already embodied in the Dutch Higher Education Act, which prescribes as one of the aims of scientific education “the fostering of the social responsibility of the individual”. Eupsychian education might provide an answer to the question — often shied away from — of how this might be effected.
This rather extensive quotation, coming, as it does, on top of the many others which we have used to bring out the essence of what we have discussed in this chapter, sums up quite effectively, we think, what Maslow is driving at in his managerial philosophy. Management, to this humanistic psychologist, involves more than treating employees indiscriminately as grown-ups by giving them more responsibility; in this respect it is more flexible, more dynamic than Theory Y-type management. It is a matter of wider and deeper responsibility for management itself, both towards the members of the organization as well as towards society as a whole.

It seems to us that such "enlightened" management may provide an answer to some of the problems which, at the present moment, beset not only the industrial, but also the educational organizations in many countries. It is regrettable, however, that it is necessary to add one more quotation: "... it is clear that enlightened management as a force in industry cannot spread unless the society is ready for it, unless managers are ready for it, supervisors are ready for it, workers are ready for it, the politicians are, the schools are, etc., etc. Enlightened management is quite impossible today in any really authoritarian society." (1965, p. 248).
Part II

Research
CHAPTER 3

Reinterpretation of existing research data

What one “finds out” from one’s data is a function of two things: the information in the data and how this information is extracted.

Clyde H. Coombs: Theory and methods of social measurement

3.1 Recapitulation: The Hierarchy of Basic Needs

Having traced the main aspects of Maslow’s theoretical position up to its ultimate philosophical consequences for the industrial situation, we now turn to our effort of finding support, in that situation, for what we consider to be the core of Maslow’s theory of motivation: the hierarchy of prepotency of the basic needs.

The basic needs are the “fundamental data” in Maslow’s holistic theory of motivation (1.2): they are syndromes of needs “all having the same psychological flavour” (1.2.1); all incidental needs (which manifest themselves by certain behavioural acts) are symptoms of a basic need (or of more than one basic need simultaneously) (1.2.2). The basic needs (also frequently referred to as “need categories”) are supposed to be universal (1.3) and therefore ought to be in evidence in any subject (or group of subjects) in whatever situation.

The basic needs arrange themselves in a hierarchy of prepotency, by which is meant that not all basic needs manifest themselves equally strongly all the time, but that one category of needs must be fulfilled to a certain extent before the next category begins to co-determine the motivated behaviour (1.4).

At the end of Chapter 1 we have drawn up the hierarchy as follows:

I Self-actualization
IIa Self-esteem
IIb Respect
IIIa Love for others
IIIb Belongingness
IV Safety
V Physiological needs
The reader has already been advised to memorize the symbols; from now on they will be constantly in use. The words which come after the symbols are mere labels; if they should have lost their meaning for the reader, he had best return to sections 1.5.1.1 through 1.5.1.4 and 1.5.2 for a full description.

The viewpoint that the gratification of a need does not merely lead to a condition of "rest" (1.6.1), but that presumably some tendency for "growth" causes a new set of needs to emerge (1.6.2) gives Maslow's theory of motivation a dynamic character. It will obviously be of interest to verify not merely the validity of the categories of basic needs in the work situation, but also to verify this dynamic character of the hierarchy of prepotency; if possible, this should lead to more precise information as to the exact sequence of prepotency of the four sub-categories which we have distinguished (1.6.3).

To do all this is obviously a tall order; in the present chapter we start out with a simple preliminary step. Before setting up a more ambitious research design, we wished to collect, if available, a few indications of the feasibility of our project; for that purpose we searched the existing literature in order to see whether Maslow's basic categories can be traced back in data which various authors have found to be descriptive of the aspects of the work situation.

In doing so, we inevitably ran up against the well-known fact that, more often than not, it is impossible to use published research results for purposes other than those for which the original study was designed. Even if a publication can be found which is relevant to the issue at hand, it will soon become obvious that the results are generally presented in a manner which makes them unaccessible to further analysis.

In the case of studies which investigate basic factors in the work situation — the type of study which interests us here — this is so because the basic data (such as the original items of the questionnaire used, the scores on these items or the raw answers to interview questions), are usually not included in the material reported.

If we wish to reinterpret existing research results in terms of the Maslow categories, we are therefore restricted to those few instances where at least original items or other more or less basic data are presented along with the results.

The outcomes of a few of such reinterpretations follow in the next sections.

3.2 SCHAEFFER (1953)

The usefulness for our present purposes of a no longer recent paper by Schaffer (1953) is evident from the fact that Schaffer gives in an appendix a full description of his questionnaire, including the complete text of each of his 132 items. Furthermore, he introduces his presentation as "an attempt to develop a theoretical conceptualization of job satisfaction which will have functional utility" (op. cit., p. 1), continues to admonish research workers for having given such slight attention to fitting situational factors in a theoretical framework (op. cit., p. 2) and then states that he has "chosen to deal with human needs and their satisfactions".
Considering the basic material available in the appendix and the theoretical interest of the author, the expectation seems warranted that we might find here some data that we could use.

The interesting thing about Schaffer’s method — interesting in contrast to a factor analytical method, for instance — is that he begins by taking a number of factors and then tries to establish the extent to which these factors represent basic needs. In view of what follows, it should be emphasized that Schaffer does not use Maslow’s basic need categories; indeed he does not seem to be familiar with Maslow’s work at all. He cites only Murray (1938) as a starting point. (op. cit., p. 4).

Schaffer distinguishes 12 needs,1 and each of these needs is measured by means of 11 items which were written to represent these needs.

Below we quote the list of Schaffer’s needs in his own words, including the alphabetical coding he uses, the name of the need and a brief description of it. Schaffer’s text is placed between quotation marks; following the description of each need we give our own interpretation of it in terms of Maslow’s categories. As it is not always possible to judge by, or rely on, the name of the need alone for a correct interpretation, we also quote as many of the eleven items by which the need is represented as will suffice to illustrate our choice. (Italicized words are according to the original).

“A. Recognition and Approbation. The need to have one’s self, one’s works, and other things associated with one’s self known and approved by others.” This is obviously a very close description of Maslow’s category IIb (1.5.1.4), as the following items show: “. . . you do something well you know that you are going to get the credit for it.” “. . . When I do a good job I want people to know I did it.”

“B. Affection and Interpersonal Relationships. The need to have a feeling of acceptance by and belongingness with other people. The need to have people with whom to form these affective relationships.” This description fits Maslow’s category IIIb (1.5.1.3), and the content of the items rather confirms this, though the difference with the closely related category IIIa is not always very clear: “. . . that’s about the best thing here — the fact that I have so many close friends.” “You get more real genuine love from your family . . .”

“C. Mastery and Achievement. The need to perform satisfactorily according to one’s own standards. The need to perform well in accordance with the selfperception of one’s abilities.” This description might at first glance suggest the category IIa, need for self-esteem (1.5.1.4), but the second sentence in particular suggests category I: “the desire to become more and more what one is, to become everything that one is

1 Four of these may be identified as having been derived from Murray’s list of 28 “Psychogenic needs” (Murray 1938, pp. 80/83); indeed Murray’s other “basic” needs would hardly be considered basic today.
capable of becoming". (1.5.2). Close scrutiny of the items confirms this: "... do a good job according to my own standards." "When I do something I like to do it well!" "... I want to be able to say when I'm finished ... 'you did a darn good job'." "I like to do work that's challenging and yet that's easy enough for me to do a decent job at it." "... the important thing is to keep getting better and better at it." "... get some satisfaction from taxing his ability."

"D. Dominance. The need to have power over and control of others." This should clearly be category IIb (1.5.1.4); Maslow (1954, p. 90) lists the need for "dominance" explicitly among the esteem needs. The items are all very clearly tuned to "leadership", "influence" and "authority".

"E. Social Welfare. The need to help others, and to have one's efforts result in benefits to others." Category IIIa (1.5.1.3) could hardly be described more appropriately; all items conform accordingly.

"F. Self-expression. The need to have one's behaviour consistent with one's self-concept." Here we run into difficulties. This description resembles category I (1.5.2) and also category IIa (1.5.1.4). Analysing the need item by item does not, however, confirm either interpretation: "I like to be myself." "I can say what I think, do what I think I ought to and act just the way I feel." "... to be able to let myself go and express those moods and feelings." "... let off a little steam." "... act the way you ... really are." "... chance to express himself."

The conclusion must be that this need does not fit any of Maslow's fundamental categories. We must leave it at that and see what happens.

"G. Socioeconomic status. The need to maintain one's self and one's family in accordance with certain group standards with respect to material matters." Judging from this description, one would say that this is part of the picture of category IIb (1.5.1.4); the stress is here very explicitly on the material "proofs" of being respected only. It should be remarked, however, that, while this need represents only part of a category, it does not, on the other hand, form part of another category also; even though it is an incomplete category, it is a pure one in the sense that no contamination from some other category, e.g. category IV (1.5.1.2), need a priori be expected, as is illustrated by the items: "I can own one of the nicest houses in the block." "Keeping up with the Joneses? Sure I do." "... making money and getting into a good social position." "... one could live very comfortably and certainly very respectfully."

"H. Moral value scheme. The need to have one's behaviour consistent with some moral code or structure." Here again we have a need that would seem to fit not just one particular category; it resembles category IIIa (1.5.1.3), but also category IV (1.5.1.2), depending mostly on whether the respondent's attitude is more active (IIIa; actively wanting to be a good citizen, abiding by rules for the common good) or more passive (IV: feeling comfortable in the knowledge of being good, and deriving a sense of security from abidance by rules set by others). Even so, the factor is not clearly described by these two categories only, as the items show: "I know right from wrong and I live according to those ideals." "Living a good life ... is very important to me." "I don't think I'd sell junk like that. It's not worth what I'd have to put up with my conscience." "... never violate their principles of life." "Lives his life
in accordance with a set of laws which always points out the right way of life for him." "In my job I am completely free of any worry about violating my religious or ethical values."

Therefore the conclusion here can only be that this is another need which is not clear in terms of Maslow's fundamental categories; again we must leave it at that and see what happens.

"I. Dependence. The need to be controlled by others. Dislike of responsibility for one's own behaviour." As the items confirm, this need should come under category IV (1.5.1.2): "I know just what is expected of me." "It sure is comfortable to know that there is always somebody to help you when you need it." "... someone to do my worrying for me."

"J. Creativity and Challenge. The need for meeting new problems requiring initiative and inventiveness, and for producing new and original works." This need should obviously be identified with category I (1.5.2); the items fit the description very closely and there is no need to cite more than one as an illustration: "... is always able to invent and create new things; who can meet new problems and solve them by his own skill."

"K. Economic security. The need to feel assured of a continuing income. Unwillingness to 'take a chance' in any financial matters." Though restricted to purely financial matters, the appropriate Maslow category here is clearly IV (1.5.1.2): "... my job is always going to be here for me."

"L. Independence. The need to direct one's own behaviour rather than to be subject to the direction of others." Maslow (1954, p. 90) lists "the desire for... independence and freedom" among the needs that form category IIa (1.5.1.4). Both qualifications are clearly represented in the items: "I mostly like to do things on my own, without having somebody telling me how." "I like to be my own boss." "... completely free." "... free to live and work as he chooses."

Our conclusion concerning the reinterpretation of Schaffer's needs into Maslow's categories must be then, that 10 out of 12 needs are fairly pure Maslow categories, whereas the remaining two cannot be so interpreted. Our reinterpretation turns out as follows:

<table>
<thead>
<tr>
<th>Maslow category</th>
<th>Schaffer's need(s)</th>
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<tbody>
<tr>
<td>I</td>
<td>C.J.</td>
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<td>IIa</td>
<td>L.</td>
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<tr>
<td>IIb</td>
<td>A.D.G.</td>
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<tr>
<td>IIIa</td>
<td>E.H?</td>
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<tr>
<td>IIIb</td>
<td>B.</td>
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<tr>
<td>IV</td>
<td>H?I.K.</td>
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<tr>
<td>V</td>
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Need F must remain unclassified; it does not seem to fit any of the categories,
whereas H remains dubious; it has some traits of at least the categories IIIa and IV. Category V (1.5.1.1) is not represented in Schaffer's material.

Now let us take a look at the data which Schaffer presents. He intends to gain some insight as to the usefulness of his needs by computing "the independence or uniqueness of each", and he accordingly presents a table of intercorrelations. (Schaffer, 1953, p. 11).

Schaffer (op. cit., p. 12) maintains that "... the table of intercorrelations indicates that in general the scales are fairly independent of each other." For this independence (or lowness of the correlation coefficients) Schaffer gives no criterion, but when we compute the value of the coefficient which would in this case be significant at the 5% level ($\rho = \pm .232$) and we use this level of significance as a criterion, we are willing to agree with him: 56% of the coefficients are "insignificantly" small.

Even so, quite a few significant relationships between needs do remain, and therefore it cannot be maintained that they are completely independent. Schaffer looks further into this, and discovers "... two clusters of scales which are (with one minor exception) positively correlated among themselves but negatively correlated with each other." (Schaffer, 1953, p. 12). And he proceeds to show this by means of the following tables (tables 3.2.1 a, b, c; op. cit., tables 9 a,b, c):

**TABLE 3.2.1**

*Intercorrelations of needs (Schaffer, 1953)*

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Therefore (by just looking at his half matrix of 66 correlations), Schaffer distinguishes two clusters, one represented by his needs A, D, G, and L, and the other by his needs B, E, H, and I. According to our reinterpretation, this would be the same as saying that there are two groups of *adjointing* categories, namely IIa + IIb and IIIa + IIIb + IV.

Now this in itself is not a very impressive result, but nevertheless, for futher
reference, we should like to point out that (for Schaffer’s subjects) a “break” seems to occur between the categories IIb and IIIa; the needs above and beneath that exact spot in the hierarchy correlate negatively. Furthermore, we wish to note the following minor points:

1. Neither of the two needs which we placed in category I (C and J) are found in either cluster.\(^2\)

2. Need F, which we could not place satisfactorily in any category, is also not represented in either cluster; it shows a significant positive correlation with need L only \((\rho = .28)\).

3. Need H, which was also difficult to place in a category, is included by Schaffer in one of the clusters on the strength of only one significant positive coefficient out of three \((.33, .12, \text{ and } -.03)\) and therefore behaves hardly better than does need F which Schaffer rightly leaves out.\(^3\)

4. Need K (Economic Security), which Schaffer leaves out, but which we have classified together with need I in category IV, is missing from the array. This need K shows a (not significant) negative correlation \((\rho = -.20)\) with need B, and a very low correlation \((\rho = .06)\) with need H, which shows mostly low correlations anyway. Otherwise we may include need K in the clustering with as much justification as Schaffer has included need H, for instance, as may be seen from table 3.2.2.

<table>
<thead>
<tr>
<th>TABLE 3.2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intercorrelations of needs, assigned to categories (based on Schaffer, 1953)</strong></td>
</tr>
<tr>
<td>D(IIb)</td>
</tr>
<tr>
<td>A(IIb)</td>
</tr>
<tr>
<td>D(IIb)</td>
</tr>
<tr>
<td>G(IIb)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>a</th>
<th>D(IIb)</th>
<th>G(IIb)</th>
<th>L(IIa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B(IIIb)</td>
<td>-.10</td>
<td>-.21</td>
<td>-.22</td>
</tr>
<tr>
<td>E(IIIa)</td>
<td>-.46</td>
<td>-.43</td>
<td>-.56</td>
</tr>
<tr>
<td>H(?)</td>
<td>-.34</td>
<td>-.36</td>
<td>-.34</td>
</tr>
<tr>
<td>I(IV)</td>
<td>-.34</td>
<td>-.23</td>
<td>-.34</td>
</tr>
<tr>
<td>K(IV)</td>
<td>-.30</td>
<td>-.27</td>
<td>-.13</td>
</tr>
</tbody>
</table>

\(^2\) They do not even comprise a cluster of their own: their coefficient of correlation is given by Schaffer as \(\rho = -.01\).

\(^3\) Note that even though we assigned the need to two categories, it still falls within one cluster because both possibilities (categories IIIa and IV) cluster together.
We conclude then that, when we interpret Schaffer’s results in terms of Maslow’s categories, the clusters which Schaffer discovers show some systematic pattern; one cluster contains all Schaffer’s needs in categories IIIa and IIIb, whereas the other cluster contains all the needs in categories IIIa, IIIb and IV. Furthermore, on the basis of this finding we can make quite a tenable case for including one factor which Schaffer leaves out.

At this moment we note explicitly that the two clusters are not independent, but rather that they are significantly but negatively correlated. We shall have occasion to refer back to this fact later on (9.2.2).

Admittedly, we cannot as yet derive a theoretical explanation of Schaffer’s results, but on the basis of what we have found we might conceivably do better than Schaffer himself, who offers the following post hoc explanation:

“In one of these clusters are grouped the needs for affection, for helping others, for living according to some restraining code of behaviour, and for being dependent. These needs have in common the deference of the ego — the restraining of assertive or aggressive impulses. Psychoanalytically, the expression of such needs might be interpreted as defences against the recognition of aggression or hostility.

“In the other clusters are the needs for recognition, dominance, status, and independence: ego-assertive needs. Theoretically, it is conceivable that the better-adjusted respondents were able to recognize and accept the presence of the assertive needs more easily than the less well-adjusted respondents.

“This would account for the emergence of these two clusters. Despite these within-sample differences it should be noted that, as might be expected, the ego-restraining and ego-deferential needs are rated stronger for the sample as a whole than are the assertive, possibly aggressive needs (with the exception of the need for Dependence, which is more or less taboo for the adult male in our culture).” (Schaffer, 1953, p. 12).

Even without reference to the reinterpretation of the above data, we would challenge Schaffer’s interpretation of one cluster being made up of ego-assertive needs on the following grounds. The needs for recognition, dominance, status, and independence may all be called ego-assertive needs, but we may only identify this cluster as being the cluster of the ego-assertive needs when needs which are not in the cluster are clearly not ego-assertive needs. And in our opinion one is just as much justified in calling the needs for “Mastery and Achievement” (C) and “Self-expression” (F: “I can say what I think, do what I think I ought to and act just the way I feel”) ego-assertive needs, as any of the others. Therefore, identifying one cluster as containing (all) ego-assertive needs would not quite seem to be a satisfactory interpretation.

The other cluster then, according to Schaffer, contains the “needs which have in common the deference of the ego — the restraining of assertive or aggressive impulses. . . . defences against the recognition of aggression or hostility”. Now we have just shown that need K (the need for Economic Security), has as much right, on the basis of Schaffer’s data, to be incorporated into this cluster as have some of the others, and to the extent that this is true, the interpretation just cited collapses completely: need K is definitely not a need which has to do with restraining of assertive or aggressive impulses.

Furthermore the inclusion of need K rather weakens Schaffer’s argument (made apparently in support of his interpretation of both clusters) namely that the needs in the one cluster are rated stronger than those in the other. He notes that needs B, E and
H are rated stronger than L, G and D (and has to make an exception already for need I); but now need K, which is rated between A and L (Schaffer, 1953, p. 8, table 5) would seem to rather upset this reasoning.

Summing up, what our reinterpretation of Schaffer's data in terms of Maslow's categories has done for us is the following:

1. Schaffer's clusters make sense without any post hoc theorizing being necessary: one cluster contains all the esteem needs, and the other contains all the social and security needs.
2. To a certain extent, it was possible to test a hypothesis and find support for it: we expected need K to belong to one of the clusters, and we were able to make a case for that on logical (not on theoretical) grounds.

At this point we want to make it quite clear that we do not pretend to have given an explanation of Schaffer's results; we simply want to point out that these results have become more clear and in a sense predictable.

For later reference, we add the particulars of the population Schaffer used in his study (Schaffer, 1953, p. 7):

| Professional and Managerial | 37 | 55% |
| Clerical and Sales | 20 | 30% |
| Skilled | 8 | 12% |
| Semiskilled | 2 | 3% |
| Unknown | 5 | 100% |
| **Total** | **72** |

3.3 FRIEDLANDER (1963)

Obviously, when we are dealing with basic need categories in the work situation, we are particularly interested in the results of factor analytical studies.

As has been pointed out by various authors, a typical aspect of studies which rely on factor analysis as a research tool is that they are seldom used to test hypotheses but at best rely on some post hoc theorizing as to why the factors turn out the way they do. It would therefore be particularly interesting to see whether it might be possible to turn things the right way round, and to see whether, on the basis of Maslow's categories, one could at least make some predictions (on a more sophisticated level than we did in the case of Schaffer's need K), about the results of a factor analytical study. Obviously, our contention would then be that the factors found are in fact identical with the Maslow categories, and vice versa.

A prerequisite for such an outcome would be, of course, that the investigator
had chosen a suitable number of factors to extract (about seven), in order to account for each of the categories.

When we turn to factor analytical studies, we are confronted even more forcibly with the difficulty mentioned in the introductory section of this chapter (3.1), that it is seldom possible to use data from a research paper for purposes other than those of the original study. Furthermore, we should bear in mind that factor analytical studies usually yield a different result for every author; as one of them states, "interpreting factor patterns is something like taking a projective test."4

Even when the subjectivity of the factor interpretations is taken into account, this should make it questionable whether the extracted factors are really very "basic"; the suspicion seems justified that often factors are tapped which have more to do with random, incidental, face-value particularities of the various items, rather than with such fundamental issues as basic needs.

Indeed, these incompatible results are probably responsible for the fact that hitherto no theories have evolved out of this enormous amount of data.

Often items are selected for factor analytical studies which are expected to have "loadings" on more than one factor; in any event, such items are seldom \textit{a priori} excluded in favor of "pure" items. Needless to mention, this is a very sound procedure; for our purposes, however, it does mean that, if we want to interpret these items in terms of Maslow's categories, we may run into difficulties. It is only possible to assign an item to one specific category if it is a pure item in terms of the categories used. A good example of this last condition is a study by Friedlander (1963).

Friedlander extracts from the scores on 17 "source-of-satisfaction items" three factors; on the next page we reproduce his results together with our own interpretation of each item in terms of the seven Maslow categories (Friedlander, 1963, p. 248).

---

4 Lodahl, 1964, p. 510.
The working relationship I had with my supervisor was very good.

I was working under a supervisor who really knew his job.

I was working in a group that operated very smoothly and efficiently.

Management policies that affected my work group took into consideration the personal feelings of the employees.

I had exceptionally good working conditions and equipment.

I felt secure in my job.

The working relationship I had with my co-workers at my level was very good.

The job required the use of my best abilities.

I had a real feeling of achievement in the work I was doing.

I liked the kind of work I was doing.

I received a particularly challenging assignment.

I was getting training and experience on the job that were helping my growth.

I felt there was a good chance that I'd be promoted.

I was expecting (or received) a merit increase.

I received a particularly challenging assignment.

I was given increased responsibility in my job.

A job I did received recognition as being a particularly good piece of work.

A few comments must be made on the interpretation of the items into their proper Maslow categories. The reader can easily satisfy himself as to the straightforwardness of the assignment in most cases; in a few instances, however, we have indicated that we are in doubt as to what the proper category should be.

The items 4, 6, 15 and 5 are examples of items which clearly belong in the social needs category, but which cannot be pinned down, on their face value, to either category IIIa or IIIb. It is a matter of which party in the relationship plays the active role; if the subject’s role is the passive one (to be loved, to belong), then the proper category would be IIIb; if the subject is the active
party, then we should assign the item to category IIIa. But when mention is made of a mere “relationship” or when judgement is given about the subject’s work group, then it is not clear what the proper category should be. Incidentally, this is a difficulty which we will come across more often in the following pages.

Item 13 simply cannot be assigned to a category. It is impossible to know beforehand to what reasons — to the satisfaction of what needs — respondents refer when they answer an item of such a non-specific nature. If all goes well, however, it should be possible to know this afterwards, i.e. after the analysis of the data; we will return to this item presently.

There is one more item which is not a straightforward, pure item in terms of the Maslow categories. Item 2 is the only one of all 17 items which appears in two factors; for a “pure” item, this is, of course, a bad way to behave. It would probably mean that the basic need of which the pure item was supposed to be a representative is not so basic after all, considering the fact that a factor analysis which yields only three factors divides it into two components right away. So item 2 becomes more or less a test case for the basic nature of Maslow’s need categories, at least at the modest level of sophistication at which we are looking at things so far.

Let us take a close look at the exact text of item 2: “I received a particularly challenging assignment.”

We would contend that two meanings may be attached to this sentence. The first stresses the “receiving”: “I received (recognition because I was given) . . .” and the second stresses “challenging”: “. . . a particularly challenging assignment (which gives me a feeling of competence).” If put in this way, we see that both categories IIb and IIIa (in that order) are present in this item, and it makes sense that this particular item turns up in two of Friedlander’s factors when we realize that we may render the result of our reinterpretation of his items as follows:

Friedlander Factor I: Maslow categories IIIa + IIIb + IV + V
Friedlander Factor II: Maslow categories I + IIa
Friedlander Factor III: Maslow category IIb.

When we consider this result we notice that it shows the same general characteristic as the result we got when we reinterpreted Schaffer’s data: the factors are made up of groups of adjoining categories. In Schaffer’s case where there were two factors, we found a “break” between the categories IIb and IIIa; in Friedlander’s case there are three factors, and the “breaks” are now found between categories IIa and IIIb, and once again between categories IIb and IIIa.

The sample which was used in this study is described by Friedlander (1963, p. 247) as follows: “The questionnaire . . . was administered . . . by a large midwestern manufacturing company to its engineering, supervisory and salaried employees. . . . Two hundred of each of the three position-occupation groups
were selected in random fashion from the entire group." We wish to point out that, as far as we can judge, this population is very much the same as 85% of Schaffer's sample (Professional and Managerial 55%, Clerical and Sales 30%).

There is one minor point which we now should like to make concerning item 13: "I liked the kind of work I was doing".

As we have pointed out above, an item such as this cannot be assigned \textit{a priori} to any particular Maslow category. That becomes possible only when it is known \textit{why} people like the kind of work they are doing, i.e. which basic need(s) is (are) being satisfied by doing it. And that is exactly what we do not know but should like to find out. On the basis of Friedlander's results (and our interpretation thereof) we can now conclude that Friedlander's subjects seem to like their work because it offers them satisfaction of one or both of the two higher needs I and IIa, as these seem to be the categories that are represented by factor II on which item 13 has a loading of .50.

We would contend that this illustrates the kind of gain in insight which a reinterpretation of results such as Friedlander's yields.\footnote{The finding that non-specific items of this type load on the factor which represents the categories I and IIa has been confirmed by factor analyses of a middle management attitude survey (van der Graaf & Huizinga, 1969). The factor in this case contained category I-items in particular. See also 8.6.2.}

\subsection{3.4 HERZBERG \textit{et al} (1959)}

On the basis of an extensive analysis of the results of attitude studies, Herzberg, Mausner, Peterson \& Capwell (1957, p. 7) arrived at the conclusion that "... there was a difference in the primacy of factors, depending upon whether the investigator was looking for things the worker liked about his job or things he disliked. The concept that there were some factors that were "satisfiers" and others that were "dissatisfiers" was suggested by this finding."

This discovery caused Herzberg, Mausner \& Snyderman (1959) to conduct a study which was especially designed to investigate this entirely new theory, and a host of studies, all tailored to their original design — and with more or less the same results — have followed this initial publication. (See 9.2.2).

As the reader will remember, there was a fundamental difference between Schaffer and Friedlander concerning the way in which their "needs" or their "factors" were established. Schaffer merely decided — on the basis of his knowledge of the field — what needs ought to be the essential ones, and he set out to explore the adequacy of his choice by way of items which he constructed to represent these needs. He expected his needs to be independent and not to correlate, but correlate they did: he \textit{found} that his basic needs clustered together in a certain way. Friedlander worked the other way round: expecting clusters,
he factored a few items which he felt were meaningful in order to find out what the nature of the clustering would be. The reader will remember that they did cluster in such a way as to suggest that they have one thing in common with Schaffer's results, namely a "break" between clusters which was interpreted by the present writer as being situated, in the Maslow hierarchy, between the categories IIb and IIIa.

Herzberg et al chose a design that was again completely different. In the first place they set out to prove the existence of two clusters — or strictly speaking of two groups of factors in the work situation which operated in a different (even opposite) way. To collect material for this proof, they used the incident technique: subjects were asked to describe episodes in their working life which had led to good feelings, and other episodes which had led to bad feelings on the job. Herzberg et al call these "high" and "low sequences" respectively.

In the second place — and this is the crucial point — they grouped the material from these interviews together into more basic "factors" in a different way from either Schaffer or Friedlander.

The grouping was done on the basis of the researcher's own professional judgement, and it was done post hoc, that is, after the interviews were completed. Disregarding for the moment whatever merits or demerits this procedure may have, it is interesting to note that also this third type of procedure yields groupings — for which Herzberg et al chose the name "factors" — which are for the most part reinterpretable in terms of Maslow's need categories. Indeed this is not only remarkable but also quite lucky, because this time we do not have at our disposal the original "incidents", as we had the original items in Schaffer's and Friedlander's case. We have to go by the name and the description of the factor to which the incidents had been assigned by the original investigators, and which they present in their publication (Herzberg et al, 1959, pp. 44 ff and pp. 143 ff).

The reader will remember that reinterpretation of the results by Schaffer and by Friedlander yielded a deeper insight into these results. Some mild hypothesizing on logical grounds proved successful (Schaffer's need K) and finally some more fundamental insight in the nature of the Friedlander factors helped identify the actual content of such a non-specific item as item 13: "I liked the kind of work I was doing".

Does reinterpretation of the Herzberg factors yield the same kind of more fundamental order in otherwise unrelated data?

In view of the fact that in the case of Herzberg's study the original incidents are not available and that we have to make do with the descriptions of a number of "factors" to which the investigators assigned these incidents, we have not relied this time on our own judgement in interpreting the factors into

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6 This technique was developed by Flanagan (1954).
Maslow categories, but we have solicited the judgements of 10 subjects chosen at random.

These subjects were presented with a booklet containing:
1. A Dutch translation of the names and descriptions of nine of the Herzberg factors (Herzberg et al, 1959 pp. 44-49, 143-146);
2. A Dutch translation of descriptions of the seven categories based on Maslow's original text (1954, pp. 80 ff).
3. A form on which they were asked to indicate to which Maslow categories each Herzberg factor belonged.

No attempt was made to force a choice in the event of it being difficult for the subject to make one; nor was any restriction put on the number of categories one was allowed to mention. There was no communication concerning the task between the subjects.

Results showed that, though agreement between subjects was far from perfect, only 4 double choices were made and one choice was left open.

Hereunder (table 3.4) we have listed in the last column but one, for each of the 9 factors so studied, the choices made by the 10 subjects in terms of Maslow categories. (Double choices were counted as ½ on each choice). In the last column we have indicated whereabouts the median choice would be in the Maslow hierarchy. This median choice determines the sequence in which the 9 Herzberg factors appear in the table.

The Maslow categories and the order of the factors based on these medians are our additions to the material contained in tabel 3.4, which otherwise is derived from Herzberg et al, 1959, p. 72, table 6.

The figures in the third column represent the relative number of times (in percentages of the number of subjects) that incidents belonging to each factor were mentioned by Herzberg's subjects in connection with good and with bad feelings on the job (in Herzberg's terminology: “high” and “low” sequences).

Rearranged and added to in the way just described, table 6 from Herzberg et al, 1959, p. 72 then looks as shown overleaf:

7 In the original table, Herzberg et al differentiate between sequences of long and short duration (“How long did the feeling last”). We have left out this distinction (which was gradually dropped in later related studies anyway) and show the total figures only.
<table>
<thead>
<tr>
<th>nr.</th>
<th>Herzberg factor</th>
<th>High/Low sequences</th>
<th>Maslow category</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Responsibility</td>
<td>23 &gt; 6</td>
<td>I-IIa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ia 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Iib 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Iib 1½</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IIa ½</td>
</tr>
<tr>
<td>3</td>
<td>Work itself</td>
<td>26 &gt; 14</td>
<td>(I-IIa)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ia 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>V 4</td>
</tr>
<tr>
<td>1</td>
<td>Achievement</td>
<td>41 &gt; 7</td>
<td>IIa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IIa 7</td>
</tr>
<tr>
<td>5</td>
<td>Advancement</td>
<td>20 &gt; 11</td>
<td>IIa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IIb 3</td>
</tr>
<tr>
<td>2</td>
<td>Recognition</td>
<td>33 &gt; 18</td>
<td>IIb 3½</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I 2</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>IIa 1</td>
</tr>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>IV 4</td>
</tr>
<tr>
<td>12</td>
<td>Supervision technical</td>
<td>3 &lt; 20</td>
<td>(IIIa)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IIa 1</td>
</tr>
<tr>
<td></td>
<td>Interpersonal relations</td>
<td></td>
<td>IIb 2</td>
</tr>
<tr>
<td>10</td>
<td>Superior</td>
<td>4 &lt; 15</td>
<td>IIIb 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Iib 1</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>IIIa 1</td>
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<td>11</td>
<td>Peers</td>
<td>3 &lt; 8</td>
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<td></td>
<td></td>
<td></td>
<td>IIIa 1</td>
</tr>
<tr>
<td>13</td>
<td>Company policy and administration</td>
<td>3 &lt; 31</td>
<td>IV 9</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>IIIb 1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>IV 9</td>
</tr>
<tr>
<td>8</td>
<td>Working conditions</td>
<td>1 &lt; 11</td>
<td>V 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>? V 1</td>
</tr>
<tr>
<td>15</td>
<td>Personal life</td>
<td>1 &lt; 6</td>
<td>8 V 9</td>
</tr>
<tr>
<td>6</td>
<td>Salary</td>
<td>15 n.s 17</td>
<td>8 V 9</td>
</tr>
<tr>
<td>7</td>
<td>Possibility of growth</td>
<td>6 n.s 8</td>
<td>8 V 9</td>
</tr>
<tr>
<td>8</td>
<td>Interpersonal relations subtype</td>
<td>6 n.s 3</td>
<td>8 V 9</td>
</tr>
<tr>
<td>9</td>
<td>Status</td>
<td>4 n.s 4</td>
<td>8 V 9</td>
</tr>
<tr>
<td>16</td>
<td>Job security</td>
<td>1 n.s 1</td>
<td>8 V 9</td>
</tr>
</tbody>
</table>

8 This factor was omitted from the judging-experiment (which involved other material as well which will be treated in section 9.2.1 “B”) so as not to burden the judges unduly; category V seemed an obvious choice here on the basis of the description given. (Cf Herzberg et al, 1959, pp. 48/49 and 146). “Work itself” and “supervision technical” are apparently extremely dubious as to Maslow category.
It does not seem necessary to add much to the clear-cut arrangement which emerges: all the "satisfiers" are "on top" of the "dissatisfiers", Herzberg's two "clusters" are made up of the adjoining categories I + IIa + IIb and IIIa + IIIb + IV + V respectively and so the "break" between the two is situated between the categories IIb and IIIa as was the case with Schaffer and Friedlander.

As before, we end by giving a description of the population which provided the data for the study. The research was conducted in 9 companies in the Pittsburgh, Pa, area and covered some 200 subjects which are identified as engineers and accountants (their ratio is not stated). The accountants are described as "all personnel involved in the fiscal activities of the company from the level of chief accountant or comptroller (if he were not a company officer) down to the lowest rank at which judgemental functions are exercised." (Herzberg et al, 1959, pp. 33/34). Of the engineers which were included in the sample, the following description is given (op. cit., p. 34): "We included all individuals who had any design function whatsoever. Routine detail draftsmen were not included . . . Many of our engineers did design or technical work only. Some also had supervisory functions. We did not include any . . . whose primary job was the supervision of production."

Again, as far as we can judge, a population which, at least in terms of hierarchical level, is comparable to the populations of both Schaffer and Friedlander.
CHAPTER 4

The motivation theories of Maslow and of Herzberg

First that scholar... will start off timidly and discreetly with the humble question: "Is not this derived from that? (...) He promptly quotes one author after another and as soon as he has discovered just one indication or something which looks like an indication, he becomes braver and braver and proceeds all the quicker. He starts to converse confidentially with the ancient writers, he asks them questions which he answers himself and he forgets altogether that he started off with a modest assumption. He already believes he sees something, it becomes clearer and clearer, and he concludes with the words: "This and this is such and such . . ."

Nicolai Gogolj: Dead souls

4.1 AN EXPLANATION OF HERZBERG'S RESULTS ON THE BASIS OF MASLOW'S THEORY OF MOTIVATION

For what it may be worth, that which we learned from the reinterpretation, in the previous chapter, of the results obtained by Schaffer, Friedlander and Herzberg et al in terms of Maslow's need hierarchy, may be interpreted as a certain gain in insight in a possible ordering principle behind these data. Even though this preliminary effort does not prove anything whatsoever, we may derive from it some justification for the notion that Maslow's motivation theory might be useful in the work situation. And that, after all, was the modest aim which we set out to achieve at the beginning of Chapter 3.

To recapitulate once more: we have seen that for Schaffer's data (3.2) we were able to make a minor prediction on logical grounds (factor K) and that for Friedlander's data (3.3) we made a prediction that was based to some extent already on theoretical considerations: we expected factors and need categories more or less to coincide and at least not to overlap mutually.
For Herzberg's material (3.4) we have made no formal predictions; we have merely brought to light a consistent pattern in the data by our reinterpretation of them in terms of Maslow's categories.

In this last case, however, we can do more, and even considerably more: we can predict Herzberg's results on theoretical grounds, and indeed on the basis of Maslow's theory of the hierarchy of prepotency of the basic needs.

Such a prediction would be based on the following reasoning.

As has been discussed in Chapter 1, a particular category of basic needs emerges as a determiner of the motivated behaviour when the category of needs which is prepotent to it has been largely satisfied (1.4). In that case (and we have not discussed this point explicitly at the time), Maslow speaks of the domination of the organism by the needs belonging to that particular basic need category. Beginning with the physiological needs, he states: "The physiological needs, when unsatisfied, dominate the organism, pressing all capacities into their service and organizing these capacities so that they may be most efficient in this service. Relative gratification submerges them and allows the next higher set of needs in the hierarchy to emerge, dominate, and organize the personality, so that instead of being, e.g. hunger obsessed, it now becomes safety obsessed." And he adds: "The principle is the same for the other sets of needs in the hierarchy, i.e. love, esteem, and self-actualization." (1954, p. 107). In accordance with this we find elsewhere: "If the physiological needs are relatively well gratified, then there emerges a new set of needs, which we may categorize roughly as the safety needs. All that has been said of the physiological needs is equally true, although in less degree, of these desires. The organism may equally well be wholly dominated by them. They may serve as the almost exclusive organizers of behavior, recruiting all the capacities of the organism in their service, and we may then fairly describe the whole organism as a safety-seeking mechanism." (1954, p. 84; emphasis added).

About the needs for belongingness and love, which follow the safety needs in the order of prepotency, we read: "... So far as the person himself is concerned all he knows is that he is desperate for love, and thinks he will be forever happy and content if he gets it. He does not know in advance that he will strive on after this gratification has come, and that gratification of one basic need opens consciousness to domination by another, "higher" need. So far as he is concerned, the absolute, ultimate value, synonymous with life itself, is whichever need in the hierarchy he is dominated by during a particular period." (1959a, pp. 123/4; also 1962b, p. 145).

1 From this chapter onwards we shall frequently omit the cumbersome "et al" in connection with Herzberg's "The motivation to work". We feel more free to do so, since the name of neither co-worker is connected with the further development of the Motivation-Hygiene Theory, of which the book by Herzberg et al presents only a beginning.
Domination by the needs belonging to one particular category would not only seem to mean that these needs are stronger (for a particular individual at a particular period), but that for all practical purposes the needs lower in the hierarchy have ceased to be active because of their very gratification: “If we are interested in what actually motivates us, and not in what has, will or might motivate us, then a satisfied need is not a motivator. It must be considered for all practical purposes not to exist, to have disappeared. This point should be emphasized because it has been either overlooked or contradicted in every theory of motivation I know.” (1954, p. 105). “All the basic needs which have been fully gratified tend to be forgotten by the individual and to disappear from consciousness. Gratified basic needs simply cease to exist in a certain sense, at least in consciousness. Therefore, what the person is craving and wanting and wishing for tends to be that which is just out ahead of him in the motivational hierarchy.” (1965, pp. 236/7).

And not only have needs lower in the hierarchy ceased to exist when a less prepotent need category “takes over”, but domination by the needs of one particular category must also be understood in the sense that the needs higher in the hierarchy are not yet active, as Maslow explains in the sentence which immediately follows our last quotation: “Focusing on this particular need indicates that the needs which are still higher and beyond what the person is craving for have not yet come into the realm of possibility for him, so he doesn’t even think about that. This can be judged from Rorschach tests. Also, this can be judged from dream and dream analysis.” (1965, p. 237). The same is said in a different manner elsewhere as follows: “On the whole we yearn consiously for that which might conceivably be actually obtained. As a man’s income increases he finds himself actively wishing for and striving for things that he never dreamt of a few years before.” (1954, p. 77).

On the basis of these various statements we may understand the word “domination” to mean that at any time the needs belonging to one particular category are much stronger than needs belonging to all the other categories, because for all practical purposes the more prepotent needs have actually disappeared while the less prepotent needs have not yet emerged.

Now with the introduction of the concept of the “dominating” need, the explanation of Herzberg’s results becomes quite straightforward.

We can see very easily how an individual whose motivated behaviour is dominated by the social needs, for instance, and who, consequently, would no longer be aware of the needs belonging to the physiological and security categories, no longer feels consciously satisfied when these latter needs are fulfilled. On the other hand, should a particular need belonging to these categories become frustrated, then it is easy to visualize a specific dissatisfaction setting in.
In Maslow's own words: "... if you ask a person what's good about his place, he won't think to tell you that his feet didn't get wet because the floors aren't flooded, or that he is protected against lice and cockroaches in his office, or the like. He will simply take all of these for granted and won't put them down as pluses. But if any of these taken-for-granted conditions disappears, then of course you'll hear a big howl. To say it another way, these gratifications do not bring appreciation or gratitude, even though they do bring violent complaints when they are taken away." (1965, p. 235).

Alternatively, a similar reasoning may be applied to the needs which this same individual, who is dominated by the social needs, has not yet reached. He is not yet conscious of them, and hence no dissatisfaction could possibly ensue when these needs are not fulfilled; he would at worst register a normal state of affairs. However, the moment something happens such as, for instance, a "pat on the back" in recognition of a job well done, this individual would suddenly feel very gratified because he got something out of the situation which he had not been ready to expect.

This simply amounts to the following situation: some factors in the work situation lead to dissatisfaction only, while others only give rise to feelings of satisfaction.²

Fig. 4.1 on the next page illustrates our meaning in a schematic manner.

Now, since the first set of factors always corresponds to the categories which are lower than the "dominating" category, and the second set always corresponds to the categories which are higher than that same "dominating" category, it would follow that all of Herzberg's "satisfiers" come higher in the hierarchy of basic needs than his "dissatisfiers". This, anyway, would be the hypothesis derived from Maslow's theory, and for the data from Herzberg et al (1959) we have already shown this to be the case: the "satisfiers" were "on top of" the "dissatisfiers" when the factors were ranked according to Maslow's hierarchy. Consequently, our reasoning, based on (fragments of) Maslow's theory of motivation, leads us to expect results as those offered by Herzberg et al.

We shall henceforth refer to these results as the "satisfier/dissatisfier phenomenon", whereby we have particularly in mind our added finding that the "satisfiers" are to be found consistently above the "dissatisfiers" when these factors in the work situation are interpreted in terms of Maslow's categories of basic needs.

If this "satisfier/dissatisfier phenomenon" can be demonstrated in various industrial situations covering a variety of populations, this would mean that strong support would have been established for the usefulness of Maslow's

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² Hofstede (1967, p. 54) when explaining the Herzberg results on the basis of Maslow's need hierarchy, manages to do this with an even less detailed line of reasoning; he simply introduces a "level of expectation".
4.1—4.2.1

The following pages will be devoted to a further exploration of the consequences of the line of thought developed in this section.

4.2 CONFRONTATION OF THE THEORIES OF MASLOW AND OF HERZBERG

4.2.1 Consequences for Maslow’s theory

In order to explain the Herzberg data by means of Maslow’s theory, we have introduced the concept of the “dominating” need category. Only when “[one] set of needs [is allowed to] dominate and organize the personality”, as we have quoted Maslow earlier on (4.1), can we see why, in Herzberg’s study, “satisfiers” and “dissatisfiers” emerge in the way they do. If needs both higher
and lower than those in the “dominating” category should also be of real importance for the motivated behaviour of the individual (and those in the “dominating” need category only slightly more so), then the emergence of “satisfiers” and “dissatisfiers” as found by Herzberg et al (1959) would be less readily explained; for an explanation of the “satisfier/dissatisfier phenomenon” it is necessary that the needs of the “dominating” category are at least appreciably stronger than all other needs.

It is to be regretted that on this issue Maslow does not seem to be altogether clear, because, in seeming contrast to what we have quoted above, we find elsewhere among the same pages the following explicit statement; “So far, our theoretical discussion may have given the impression that these five sets of needs are somehow in such terms as the following: If one need is satisfied, then another emerges. This statement might give the false impression that a need must be satisfied 100 percent before the next need emerges. In actual fact, most members of our society who are normal are partially satisfied in all their basic needs and partially unsatisfied in all their basic needs at the same time. A more realistic description of the hierarchy would be in terms of decreasing percentages of satisfaction as we go up the hierarchy of prepotency. For instance, if I may assign arbitrary figures for the sake of illustration, it is as if the average citizen is satisfied perhaps 85 percent in his physiological needs, 70 percent in his safety needs, 50 percent in his love needs, 40 percent in his self-esteem needs, and 10 percent in his self-actualization needs.” (1954, pp. 100/101).

As a matter of fact, at the very beginning of this same volume (from which we have been quoting freely in order to find support for the concept of the “dominating” need category), we find the following straightforward statement: “In most persons, a single primary all-important motive is less often found than a combination in varying amounts of all motivations working simultaneously. It is safest to assume that in any single scientist his work is motivated not only by love, but also by simple curiosity, not only by prestige, but also by the need to earn money, etc.” (1954, p. 3).

Then further on in the same text (p. 102), we find: “...most behavior is multimotivated. Within the sphere of motivational determinants any behavior tends to be determined by several or all of the basic needs simultaneously rather than by only one of them.” And also (p. 68): “Let us emphasize that it is unusual, not usual, that an act or a conscious wish have but one motivation.”

From these texts, the word “dominating” is conspicuously absent, and the impression one gets now is rather that need categories emerge gradually and never disappear completely. On second thought this would seem to make sense. Since the shift in the relative strength of needs depends on growth along the hierarchy, and since manifest needs may be symptoms of (have the “flavour” of) more than one basic need syndrome at the same time, it does make sense that this shift should be a gradual shift. Growth, to be sure, is a gradual and not a
discrete, saltatory affair; one does not “jump” from one need category into the next.

Still, if the needs of one need category would not be at least somewhat stronger, at any given moment, than those of the other categories, then the whole dynamic concept of growth through the need hierarchy (as we understand it so far) would come to appear considerably less useful. Therefore it would seem that the truth lies somewhere in the middle: one category of needs is appreciably stronger, but to a limited extent; this in turn would mean that the contrast between “satisfiers” and “dissatisfiers” emerges only to a limited extent — which, in fact, it does: no factor in table 3.4 is entirely either the one or the other.

At this point we define the concept “dominating” need category as follows: “The “dominating” need category is that category of needs which dominates the motivated behaviour”; operationally, the “dominating” need category may be recognized in that the manifest needs which belong chiefly to that category are appreciably stronger than other manifest needs displayed by the individual.

Clearly, it will be of importance, in view of the foregoing discussion, to find out to what degree one particular category of basic needs is really stronger than the others.

The first question which springs to mind in connection with the above is, of course: if the organism is dominated to an appreciable degree by one need category, then which need category is it? Of which category are the needs appreciably stronger than those of the other categories?

As a matter of fact, if everything we have suggested so far is correct, then we would already seem to be very close to an answer to this last question if we bear in mind that the “dominating” need category must be looked for at that point in the hierarchy where “satisfiers” and “dissatisfiers” meet. For easy reference we shall give this point a name and call it the “point of conversion” between “satisfiers” and “dissatisfiers”. It should be remembered that the point of conversion coincides with the “dominating” need category; it follows directly from our explanation of the “satisfier/dissatisfier phenomenon” (4.1).

In all this we have to overlook the fact (as we have conveniently done at the time) that we expect the factors in the work situation which correspond to the “dominating” need category itself, to be both “satisfier” and “dissatisfier” at the same time: obviously, needs in the “dominating” category will give rise to satisfaction when gratified and to dissatisfaction when frustrated, because, in contrast to needs belonging to the other categories, they are, by definition, present and active. This point is something which is not borne out by the Herzberg data as we represented them (table 3.4), and it is a point which Herzberg in fact denies, as will become clear directly at the beginning of the next section. We therefore seem to have come across an issue which is as yet vague and controversial.
4.2.2 Consequences for Herzberg's theory

The “one dominating need category” which we have had to postulate as an explicit feature of Maslow’s theory, contrasts sharply with the very essence of the theory which Herzberg himself has developed to account for the findings reported in “The motivation to work”.

In that publication (Herzberg et al, 1959, p. 111) we read:³ “Perhaps some of the confusion as to what workers want from their jobs stems from the habit of thinking that factors influencing job attitudes operate on a continuum. But what if they don’t? What if there are some factors that affect job attitudes only in a positive direction? If so, the presence of these factors would act to increase the individual’s job satisfaction. Theoretically, given an individual operating from a neutral point, with neither positive nor negative attitudes towards his job, the satisfaction of the factors, which we may call the “satisfiers”, would increase his job satisfaction beyond the neutral point. The absence of satisfaction to these factors would merely drop him back to this neutral level but would not turn him into a dissatisfied employee. Contrariwise, there should be a group of factors that would act as “dissatisfiers”. Existence of these negative factors would lead to an unhappy employee. The satisfying of these factors, however, would not create a happy employee.” (Emphasis added).

Since Herzberg presents these factors as mutually exclusive, a factor cannot be both “satisfier” and “dissatisfier” at the same time.

A few pages further on, the two sets of factors are identified as “the factors relating to the doing of the job and the factors defining the job context”. (Op. cit., p. 114). As is well known, Herzberg developed his ideas later on into a general “Motivation-Hygiene Theory”; in his book “Work and the nature of man” we read: “This study [reported in “The motivation to work”] was designed to test the concept that man has two sets of needs: his need as an animal to avoid pain and his need as a human to grow psychologically”. (Herzberg, 1966, p. 71). At this later stage the two groups of factors, acting in opposite ways on the worker, have apparently, in Herzberg’s thinking, been replaced by two different sets of needs.

Therefore it would seem that, whereas we need one “dominating” need category to account for Herzberg’s results on the basis of Maslow’s theory, Herzberg postulates two sets of needs to account for the same results. Obviously, both theories are at variance with each other.

There is yet another point wherein these two theories differ, namely in the consequences which each would have in practice.

³ As it happens, immediately following a rebuttal of Maslow’s concept of a need hierarchy!
Essential to the concept of the need hierarchy is, as we have discussed extensively in Part I, that the individual “grows” in the direction of the higher needs, towards a higher level of psychological health. But there may be a great deal of difference in the extent to which various individuals, have “grown” along the hierarchy, and consequently in the relative strength of the various need categories for different individuals; this may be dependent on age, innate capacities, external conditions, and so on.

Now this has a direct bearing on the “satisfier/dissatisfier phenomenon”. As we have postulated, “satisfiers” are those factors which correspond to needs “above” and at the level of the “dominating” category; “dissatisfiers” are found “below” and at the level of the “dominating” category. But, since there may be a great deal of difference in the extent to which various individuals have grown along the hierarchy, it follows that “satisfiers” and “dissatisfiers” may not always be found to be identical factors.

This conclusion is a second consequence of our explanation of Herzberg’s results on the basis of Maslow’s theory, and it also goes directly against the essence of the Motivation-Hygiene Theory which postulates that one particular factor is always the same: either it is a “satisfier” or it is a “dissatisfier”. (Herzberg, 1966, Chs. 6 & 7). A factor cannot be both (as we have seen above), but neither can it change role: Herzberg (op. cit., pp. 95/96) specifies by name 6 factors which are “satisfiers” (Motivators) and 10 other factors which are “dissatisfiers” (Hygienes).

This controversy might provide us with a first touchstone for Maslow’s theory; it seems that the way to investigate this theory would be by concentrating on the dynamic aspect of it, on the “growth” aspect, on the differential amount of growth along the hierarchy which people may show in one way or another. In the remainder of this chapter we shall look into this matter somewhat further.

4.2.3 Tentative findings

When we speak of individuals having grown along the need hierarchy to a different extent, we would, of course, be interested in being able to distinguish between such individuals. One would like to know: is there a co-variant of the relative amount of growth along the need hierarchy (apart from the concomitant

Though at a later stage Herzberg makes a point of asserting that the same factors are always either “satisfier” or “dissatisfier”, Herzberg et al (1959, p. 112) initially wrote: “There is still the possibility of a fluctuating “need hierarchy” operating within the group of satisfiers or dissatisfiers; or the order of importance of the components of these groups may be reasonably uniform for groups of workers who share certain common characteristics. As we have seen, the data of our study do not permit us to draw any hard and fast conclusions on this point.”
difference in the relative strength of the various need categories)? Or, in other words, do individuals who have not grown along the hierarchy to the same extent, differ in other respects as well, so that we might be able to identify them? Curiously enough, Maslow offers no explicit information on this subject. However, by a roundabout way we may make an assumption.

In “Eupsychian management”, Maslow (1965, p. 227) gives this view of what the “eupsychian salesman” — the healthy individual operating for a healthy organization in a healthy environment (2.7) — looks like, in contrast to the “ordinary”, the deficiency need oriented salesman: “...the characteristic salesman was much more a short-range person, wanting quick results, wanting a steady and quick flow of rewards and reinforcements. This is a little like saying that he is a more “practical” person, and then it occurred to me that this contrasts with the more “theoretical” kind of person. And this contrast, in turn, may possibly be phraseable in terms of short range in time and space versus long range in time and space. The “practical” person in this sense has less ability to delay. He needs quick success and quick wins. This should mean that he works within a shorter time span, and I think this would be testable. That is, for him the next few hours, the next few days, constitute the present, in contrast with the more theoretical person for whom the present may spread over into several years hence.” (Emphasis added).

The words “time span” in this connection immediately remind us, of course, of the “maximum time span of discretion” which is used by Elliott Jaques (1964) as a co-variant of the occupational-hierarchical level of individuals in an organization. This is only one step from inferring that the eupsychian, more “healthy” salesman who has grown further along the hierarchy than his “ordinary”, more deficiency oriented colleague, might occupy a higher position in the occupational hierarchy, in other words that there might be a direct relationship between both hierarchies. For the moment this is, of course, a very tentative proposition.

A little further on (op. cit., p. 228), Maslow elaborates a little on the statement just cited: “Perhaps another angle on this, also I think testable, is that the more practical type, the salesmen type, is also more concrete (rather than abstract). He tends to be preoccupied with what’s before his nose, with what he can see and touch and feel and what is right here and right now, rather than that which is unseen and which is distant and delayed.” (Emphasis added).

In the two quotations we find the eupsychian salesman described as “long range in time and space”, “more theoretical” and as more “abstract”, “pre-occupied with that which is unseen and which is distant and delayed”.

From a separate study (Huizinga, 1967) we have learned that the behaviour of individuals at various hierarchical levels within an organization differs systematically in the sense that the higher the occupational-hierarchical position of the person, the more abstract the information with which he would deal and
the more far-reaching in time, space and costs his actions would be.\(^5\)

Therefore, on the basis of the foregoing, we might conclude to a second tentative indication that the extent to which an individual has grown up the need hierarchy and his position in the occupational hierarchy are directly related.

A third, in itself equally tentative indication for such a relationship is, of course, that it is corroborated by simple “folklore”: is it not a popular belief that the professor and the managing director have other needs and have a different set of values than, for instance, the janitor or the office-boy?

In order to illustrate that one does not even have to go to such occupational extremes to find proof that this “folklore” does in fact exist, we used a written examination at Delft University of Technology for an informal experiment.

The subjects were 27 senior mechanical engineering students, who had finished a course in Industrial Psychology.

Maslow's hierarchy had been discussed in the course of the series of lectures, but no mention had been made of possible differences in relative need strength between individuals of different occupational status. On the other hand, students had been lectured at some length on McGregor's "Theory X" and "Theory Y" (McGregor, 1960) and on Kuylaars' "drained" jobs (Kuylaars, 1951), without, however, any connection between the two philosophies having been pointed out explicitly.

For our experiment, we were interested in the answers to the second of the following two questions:

1. Which basic needs are distinguished by Maslow; what does he mean by a 'hierarchy of basic needs'?
2. Which basic need does the skilled worker predominantly have, and which basic need has the university graduate in one of the professions or in industry?"

The results are tabulated in table 4.2.3. (As most subjects mentioned more than one need, the totals exceed 100\%).

<table>
<thead>
<tr>
<th>Maslow category</th>
<th>skilled worker</th>
<th>professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>7</td>
<td>82</td>
</tr>
<tr>
<td>II</td>
<td>67</td>
<td>56</td>
</tr>
<tr>
<td>III</td>
<td>48</td>
<td>7</td>
</tr>
<tr>
<td>IV</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td>V</td>
<td>15</td>
<td>4</td>
</tr>
</tbody>
</table>

\(^5\) It has been shown that (within the limits set by the study) it was actually possible to base an objective method of job grading on this result.
The nature of this unsophisticated experiment hardly merits the computation of the statistical significance of its results; as it is, the data illustrate the existence of a certain "folklore" which holds that the strongest needs of high status individuals are found higher in the need hierarchy than the strongest needs of lower status individuals. In other words: individuals who occupy a higher position in the occupational hierarchy are supposed to have grown further along the need hierarchy.

As we have seen (4.2.2), it would have direct consequences for the "satisfier/dissatisfier phenomenon" if this "folklore" were borne out by the actual facts. It would mean, namely, that individuals high in the occupational hierarchy would have "satisfiers" as well as "dissatisfiers" which are to some extent different from those lower in the occupational hierarchy. This is so because, if for the lower occupational levels the "dominating" need category and hence the point of conversion is situated lower in the need hierarchy, then factors somewhere in the middle range should be "satisfiers" for people low in the occupational hierarchy, whereas they should be "dissatisfiers" for individuals high in that hierarchy. And this, as we have seen, is contrary to Herzberg's Motivation-Hygiene Theory.

It would seem unlikely that our last conclusion could be proved correct because of the string of inferences we have had to make. However, an investigation of it will be worthwhile because, if we do find instances of "satisfiers" and "dissatisfiers" changing roles (the way we have predicted), then it would seem to support all the aforementioned inferences at one and the same time.

Let us summarize what we have found so far.

1. We have found in the literature some research data which supported the applicability of Maslow's motivation theory in the work situation. (Chapter 3).
2. Furthermore we have found that one set of data (the "satisfier/dissatisfier phenomenon") may even be explained on the basis of this theory, provided we accept the postulate of the "dominating" need category (4.1); however, at this point Maslow's text is controversial (4.2.1) and the postulate itself is at variance with Herzberg's two factor theory which was developed to account for the same set of data: according to Maslow's theory we would need one, according to Herzberg's theory we would need two "dominating" sets of needs.
3. The need category which, for a given individual, is the strongest one, depends — according to Maslow — on the stage of his psychological growth; from the latter it follows that people will presumably differ as to the extent to which they have grown along the hierarchy. (4.2.2).
4. In this section we have presented indications that individuals do differ in this sense, and more precisely in the sense that individuals at higher levels
in the occupational hierarchy have grown further along the need hierarchy than individuals at lower levels in the occupational hierarchy. If this is true, our interpretation of the Maslow theory would mean that:

5. Factors corresponding to the middle range of Maslow's hierarchy will be "satisfiers" for individuals low in the occupational hierarchy, but "dis-satisfiers" for individuals high in that hierarchy. However, according to Herzberg's theory, "satisfiers" are always the same factors, and so are "dissatisfiers". On this last point the two theories are again at variance.

This last item shows that the basic issue we have to deal with is the relative merit of Maslow's dynamic theory — dynamic because it incorporates a "directional tendency", growth through the hierarchy (1.6) — as against a static theory such as Herzberg's.

Obviously, if a case is to be made for the applicability of Maslow's motivation theory in the work situation, the controversies we have discovered must be dealt with; the changing of roles of "satisfiers" and "dissatisfiers" is a first touchstone to apply.

At this point we turn again to the literature for possible evidence; it should be realized that we are still in the exploratory stage of our investigation.

4.3 THE EXISTING EVIDENCE

4.3.1 Social factors as "satisfier" and as "dissatisfier"

4.3.1.1 Hofstede (1964)

Our first set of data is provided by a study actually set up with the partial aim of providing support for Herzberg's findings in a different setting.

Hofstede's subjects were 63 students from an elementary technical school, who had just finished a year's training in industry.

The only difference in the data gathering procedure as compared to the original Pittsburgh study was that Hofstede handed out written questions in the classroom. As appears from his paper, Hofstede had decided on this simplification after noticing a suggestion to this effect in a paper by Schwartz, Jenusaitis & Stark (1963) who in turn had received this suggestion from Herzberg's co-author, Mausner. (Schwartz et al., 1963, p. 47, note).

The translation of the questions Hofstede put to the students reads as follows:

"From your experience during this period of practical work or a previous one, can you remember a situation in which you:

A were particularly happy in your job, or
B had a particular dislike for your job (as a result of which you were particularly unhappy at it?). You may choose between A and B."

The students were given one hour to write down their experiences; the answers were broken down into 16 categories, just as was done in the original Herzberg study.
Reporting his results, Hofstede finds them to be in complete accordance with those obtained by Herzberg et al, with two exceptions, however, which he takes seriously enough to suggest that there might not be two groups of factors but three. The first exception concerns the factor “interpersonal relations peers”, which turns out to be “satisfier” \((p < .01)\) and indeed the strongest of all. The second exception is the factor “interpersonal relations superior’, (also a “dissatisfier” according to Herzberg), which is neutral when all incidents are counted but turns “satisfier” (though not significant at the .05 level) when only the first incidents which the students wrote down are taken into account.

4.3.1.2 “Instituut voor Arbeidsvraagstukken” (1963)

The data on the technical school pupils are borne out by the results of another Dutch study reported by the Institute for Labour Relations of the University of Tilburg, under the title: “The work orientation and the behaviour within the labour market of construction workers”. The subjects in the study were 372 workers in the building industry, of which 58% had no professional training, and 22% had some training on a lower level than that of Hofstede’s pupils.

No mention is made this time of the work of Herzberg, but it would seem that the design of the study has at least in part been influenced by the two factor theory. Among the questions we find the following two: “Can you recall a period of time in which you were happy (unhappy) in your job? What period was that, and why were you happy (unhappy)?” (Instituut voor Arbeidsvraagstukken, 1963, Appendix 1, questions nrs. 27 and 28).

The answers obtained to these open questions were grouped together into 11 categories; since the result of this grouping is in itself rather remarkable, it is regrettable that no mention is made as to how it was arrived at: it is clear, from the results, that no use was made of the Herzberg factors, but even so the resulting categories are equally well interpretable in terms of the Maslow need categories.

In table 4.3.1.2 we reproduce the data which were obtained (op. cit., p. 15, table 2), rearranging the sequence of the groups into which the answers were coded, this time according to our own interpretation of them in terms of the Maslow categories, but otherwise in the same way as this was done in table 3.3.1.

Again without going to the trouble of computing significances, it would seem evident that for Dutch construction workers, even more clearly than for Dutch elementary technical school students, the social aspects of the job are “satisfiers” and not “dissatisfiers”, as was the case for the Pittsburgh engineers and accountants. This conclusion is further corroborated by other data in the same report (op. cit., table 6, p. 20), where an enumeration of aspects considered for keeping the job or leaving it shows much the same pattern; the social factors are only mentioned as reasons for keeping the job (by 32% of the subjects).
TABLE 4.3.1.2

"Satisfiers" and "Dissatisfiers", Dutch construction workers, whole percentages (n=372)

<table>
<thead>
<tr>
<th>Reported category</th>
<th>Maslow category</th>
<th>% of subjects positively judging aspect (&quot;satisfiers&quot;)</th>
<th>% of subjects negatively judging aspect (&quot;dissatisfiers&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspects of the job</td>
<td>I</td>
<td>70</td>
<td>50</td>
</tr>
<tr>
<td>(craftsmanship, improvement,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>satisfaction with result)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of responsibility and</td>
<td>II</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>independence given</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleagues</td>
<td></td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Personal relationships with superiors</td>
<td>III</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Fringe benefits</td>
<td>IV</td>
<td>10 &lt; 45</td>
<td>45</td>
</tr>
<tr>
<td>Security</td>
<td></td>
<td>10 &gt; 0</td>
<td></td>
</tr>
<tr>
<td>Outdoor work</td>
<td></td>
<td>20 &lt; 30</td>
<td></td>
</tr>
<tr>
<td>Amount of dirt and effort involved</td>
<td>V</td>
<td>7 &lt; 52</td>
<td>87</td>
</tr>
<tr>
<td>Travelling distance home/job</td>
<td></td>
<td>11 &gt; 5</td>
<td></td>
</tr>
</tbody>
</table>

The results of the two studies just cited support the postulate mentioned in point 5 at the end of section 4.2.3. We see that some factors have changed role from "dissatisfier" to "satisfier" and we see also that these are the social factors and therefore the factors which correspond to the middle range of Maslow's hierarchy. In so far as our reasoning which has led up to this postulate is correct, this would mean that the Dutch construction workers and the technical school pupils occupy a lower position in the hierarchy of basic needs than American engineers and accountants.

But there is, of course, a variable involved here which might conceivably be of influence also: the contrasting data have been obtained in two different cultures. It is therefore necessary that we cite more material in order to clarify this point.

We find this material in a paper by Schwartz, Jenusaitis & Stark.

---

6 Two reported aspects have been omitted from this table, as they do not lend themselves to univocal reinterpretation into a Maslow category. These aspects are: "Remuneration" (56-40) and "Amount of supervision" (14-5).
4.3.1.3 Schwartz, Jenusaitis and Stark (1963)

These authors were particularly interested in an aspect which Herzberg et al did not discuss in their initial study, namely whether the subjects had supervisory status or not. “Accordingly, men with a supervisory responsibility in different and largely non-professional occupational groups were selected. The Herzberg subjects were primarily non-supervisory professionals...” (Schwartz et al, 1963, p. 47).

Schwartz et al selected 111 male supervisors, employees of public utility companies “...drawn from basic supervisory and lower middle management levels — that is, from line foreman to assistant district superintendent.” (Op. cit., p. 48).

After concluding that their result “...generally substantiates the findings of the Herzberg study” (op. cit., p. 51), Schwartz et al continue as follows (op. cit., p. 52): “There is one intriguing difference... between the findings of the Herzberg study and the present inquiry. For the Herzberg group of accountants and engineers, interpersonal relations with superiors and peers were significant factors in the low sequences, while for utility supervisors in the present study interpersonal relationships with subordinates was a significant factor in the high sequences.” And they might very well have added that the two “interpersonal relations” factors which were “dissatisfiers” in the Herzberg report (“peers” and “superiors”), are now definitely neutral (4-3 and 14-16 respectively).

Schwartz et al, of course, try to make a case for the fact that the supervisory aspect of their subjects’ situation has something to do with the discrepancy they point out but they themselves state that they “do not now have sufficient evidence to explain this variation.” (Op. cit., p. 52).

Nor do we believe that a satisfactory explanation of this kind is to be found, in view of the outcome of the two Dutch studies which are comparable to the Schwartz et al study, except with regard to the supervisory status of the subjects.

In view of the fact that the results of this American study show the same kind of discrepancy from the original American study as the two Dutch studies do, “nationality” or “culture” may be ruled out as a deciding factor at the same time. We therefore must conclude that we have found some support for our contention that the position in the occupational hierarchy has got something to do with the role of the factors corresponding to the middle range of Maslow’s hierarchy.

For this to be more fully corroborated, we must, of course, show that the shift in role occurs gradually as we consider subjects of gradually changing occupational-hierarchical level.
Both Herzberg's subjects and those of Schwartz et al are, of course, of a higher occupational level than are those of both Dutch studies, while we have already seen that of these two, Hofstede's technical school pupils have more training than construction workers.

An indication that the Schwartz et al subjects were of a lower occupational level than the Herzberg subjects is found in the description which Schwartz et al give of the contrast between their subjects and those of Herzberg. We repeat what we have quoted before, this time emphasizing the words which are relevant here: "... men with a supervisory responsibility in different and largely non-professional occupational groups were selected. The Herzberg subjects were primarily non-supervisory professionals..." (Schwartz et al, 1963, p. 47).

This difference in occupational status is illustrated by further descriptions of both samples, which we also have quoted already: Schwartz et al describe their subjects as ranging "... from line foreman to assistant district superintendent" (Schwartz et al, 1963, p. 48); Herzberg et al describe their accountants as follows: "... all personnel involved in the fiscal activities of the company from the level of chief accountant to comptroller... down to the lowest rank at which judgemental functions are exercised" (Herzberg et al, 1959, p. 33/34) and their engineers as: "... all individuals who had any design function whatsoever. Routine detail draftsmen were not included... Many of our engineers did design or technical work only. Some also had supervisory functions. We did not include any... whose primary job was the supervision of production." (Herzberg et al, 1959, p. 34).

From the foregoing it follows that, with respect to occupational-hierarchical level, we may rank the samples as follows: Herzberg et al, Schwartz et al and the two Dutch ones, while of the last two (if the ranking is tentatively done on the basis of training) the construction workers would bring up the rear.

In table 4.3.1.3 we have compiled the results of the studies on the three occupational-hierarchical levels as far as the 3 social factors are concerned. The gradual changing of these factors from "dissatisfier" to "satisfier" is clearly illustrated.

At this point we should like to state that we still do not wish to give the impression that we have offered any "proof" of the truth of a number of loosely stated contentions. It will always remain scientifically unsatisfactory to seek support for one's views through post hoc interpretations of other people's data, and besides there is too much material at hand which is not in line, or only vaguely so, with what we have presented just now.

7 We would disagree with Hofstede (1964, p. 375) who rather tends to depreciate the hierarchical level of the Herzberg sample. Consider the description of some of their tasks (Herzberg et al, 1959, p. 59/60): "A marine engineer told about the time he succeeded in designing a new kind of screw propeller for a completely new kind of boat. Another engineer told about the impressive achievements involved in building a new type of atomic reactor. ... accountancy is in process of becoming profession­alized. We heard many stories ... revolving around the introduction of new cost-accounting schemes, of machine processing of data, and of ... integration of accounting into production control."
TABLE 4.3.1.3

<table>
<thead>
<tr>
<th></th>
<th>interpersonal relations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>superior</td>
</tr>
<tr>
<td>Engineers and accountants (^8)</td>
<td>D</td>
</tr>
<tr>
<td>Public utility supervisors</td>
<td>n.s</td>
</tr>
<tr>
<td>Technical School pupils</td>
<td>n.s</td>
</tr>
<tr>
<td>Construction workers</td>
<td>S</td>
</tr>
</tbody>
</table>

For instance, Ewen (1964) found that of 6 factors which he extracted by factor analysis on the basis of a survey of 1,021 insurance agents, those factors which correspond to the Maslow categories III and IV acted as “satisfiers”. (“Manager interest in Agent” (III) and “Company Training Policies” (IV)). This would be in good accordance with what we have already found; however, in the same study the factor “Prestige or Recognition” (clearly Maslow category II, and usually a “satisfier”) causes both satisfaction and dissatisfaction, a shift which our present reasoning does not account for.

In this way, several studies undertaken with lower-level subjects could be cited where the reversals we have found do not occur or show only a slight tendency to do so. \(^2\)

Finally, in one study where the expected reversal does occur, the subjects were professional women, so that it would seem that variables other than occupational level may also play a role. \(^3\)

4.3.2 Differential growth through the need hierarchy

Having applied our touchstone (4.2.3, re point 5), and having found that Maslow’s theory stood up fairly well to this first test, there now seems to be reason to take our quest a little further. If the position in the occupational

\(^8\) In this table we have grouped Herzberg’s engineers and accountants together, since Herzberg has based his theory on these grouped data. Actually, the factor “interpersonal relations peers” is only a “dissatisfier” for the engineers; for the accountants the factor is neutral (4-5). Dare we draw the conclusion that the accountants were on the whole of a slightly lower occupational level than the engineers?

\(^9\) n.s = no significant difference at the .01 level of confidence (according to the authors in question).

\(^1\) The subjects of the two Dutch studies had no subordinates.

\(^2\) Cf Herzberg (1966), p. 124 table IV, where the results of a number of such studies are compiled.

\(^3\) Walt, as cited by Herzberg (1966), pp. 102 ff.
hierarchy really has something to do with the shift in Herzberg-type results which we have noticed, then it will be worthwhile to go back one step in our line of reasoning and see whether support can also be found for our contention that “individuals at higher levels in the occupational hierarchy have grown further along the need hierarchy than individuals at lower levels in the occupational hierarchy”. (4.2.3, point 4).

In the next sections we will refer once more to the existing literature and cite a number of studies in support of this more general statement.

4.3.2.1 “Instituut voor Arbeidsvraagstukken” (1963)

We find a first indication of the phenomenon we are now looking for in the report on the work orientation of Dutch construction workers we have already quoted (4.3.1.2).

Analysis of the data of their extensive research led the investigators to conclude that there was reason to distinguish between two types of work orientation. (Op. cit., pp. 66 ff).

Although neither type of work orientation is ever represented in a “pure” form, it has been possible for the investigators to arrive at a description of the two “pure” types in terms of a few “needs, goals and values”.

In such terms, both types are characterized as follows:

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
</tr>
</thead>
<tbody>
<tr>
<td>craftsmanship</td>
<td>job security</td>
</tr>
<tr>
<td>variety</td>
<td>familiar work</td>
</tr>
<tr>
<td>informal atmosphere</td>
<td>to work efficiently</td>
</tr>
<tr>
<td>freedom/independence</td>
<td>(i.e. no sudden changes, etc.)</td>
</tr>
<tr>
<td>remuneration</td>
<td></td>
</tr>
</tbody>
</table>

The reader will agree that type I is apparently orientated towards the higher needs and type II towards the lower needs in the hierarchy.

Having established these two types of work orientation, the investigators state: “The first type of construction worker was encountered mainly in the younger worker, the skilled worker, the carpenter; the second orientation in the older worker, the unskilled worker, the hodman”, adding that of the three variables mentioned, the amount of schooling seems to be the most important factor. (Op. cit., p. 66).

Even though the two types of orientation are “pure” types and therefore (hypothetical) extremes, the findings from this study make it very clear that within this group of blue-collar workers a direct relationship exists between the level of growth along the need hierarchy and the occupational level.

4.3.2.2 Centers (1948)

Under the impression of social unrest in the post-war United States, as a
consequence of recurring conflict between management and labour which he attributes in part to differences in goals and values of various occupational strata, Centers (1948) undertook "... to study the relationships between certain motivational phenomenon and occupational stratification ..." (Op. cit., p. 188).


Centers reports that "people in our culture desire, most of all, five sorts of gratification; namely, independence, self-expression, security, a chance to serve others (social service), and interesting experience." (Op. cit., p. 205). Of these five most important needs, three show non-significant differences between the occupational levels investigated. However, significant differences appear between the total white-collar and the total blue-collar sample for the two needs which in this array are extremes in terms of Maslow's hierarchy: self-expression (I) and security (IV). (p. < .05).

Furthermore, Centers reports "... a fairly consistent tendency for the desire for self expression to decrease as first choice as lower and lower occupational levels are scrutinized, and another consistent tendency for the desire for security to increase." (Op. cit., pp. 205/6).

In this hierarchically broader sample, the same phenomenon as with the more restricted blue-collar sample of the construction workers is in evidence: higher needs are more important for the higher levels and lower needs more for the lower levels.

The same tendency is also apparent from the figures Centers quotes regarding the relative need strengths of "Farm Owners and Managers" versus "Farm Tenants and Labourers"; this time it is the factor "Independence" which shows the significant difference (p < .05) between the two hierarchical levels. The other factors fail to give significant results, but as a rule they too show the expected tendency.

In view of the context in which we are quoting Centers in this monograph, it is of particular interest to note that it is precisely these findings that led him to state (in 1948!): "The findings of this survey of motives are rather strikingly in harmony with a theory of motivation advanced by A. H. Maslow ..." (Op. cit., p. 214).

4.3.2.3 Gurin, Veroff & Feld (1960)

The comprehensive field study, reported in the well-known publication "Americans view their mental health" also contains a set of data which are relevant to our present discussion.

In the next table 4.3.2.3 we have abstracted tables 6.8 and 6.9 from this...
Subjects from various occupational-hierarchical levels had been asked which things they liked most in the job, and which they disliked most. "These replies were coded according to a distinction between "ego" and "extrinsic" satisfactions (or dissatisfactions). Under the ego category we coded responses presumed to represent a personal involvement in the job — some expression of the self in the job. These responses indicated satisfaction or dissatisfaction with the kind of work one does, its interest, variety, and the skills involved; the opportunities that the job grants for the expression of responsibility, independence, competence; the potential that it offers for the gratification of interpersonal and friendship needs. Examples of extrinsic reasons are those stressing such things as money, job security and working conditions". (Op. cit., pp. 149/150); except for the word "kind", each emphasis has been added).

Maslow is not mentioned once in the entire book, which might cause one to wonder on reading the above quotation, since it would seem to contain as neat a description of the categories of basic needs, from "high" to "low", as one could wish for. Apparently, we may with confidence interpret the "ego (dis)satisfactions" as those factors in the work situations which correspond to the need categories I, II and III; the "extrinsic satisfactions" obviously stand for categories IV and V.

### Table 4.3.2.3

| Sources of (dis)satisfaction; percentage of subjects who mention only | Maslow professionals, managers & clerical skilled semi- un- | | |
|---|---|---|---|---|---|
| | | technicians | proprietors & sales workers | skilled | workers |
| **ego satisfactions** | I, II, III | 80 | 68 | 51 | 54 | 40 | 29 |
| **extrinsic satisfactions** | IV, V | 2 | 9 | 15 | 14 | 24 | 29 |
| **ego dissatisfactions** | I, II, III | 25 | 26 | 24 | 20 | 13 | 16 |
| **extrinsic dissatisfactions** | IV, V | 31 | 39 | 39 | 46 | 52 | 46 |

4 Percentages for those who mention both sources of satisfaction or none have been omitted; the figures for clerical workers and sales workers have been combined.
Table 4.3.2.3 now speaks for itself; both for "satisfactions" and "dissatisfactions" it appears that as we "go up" in the occupational hierarchy the higher needs are mentioned more often and the lower needs less often.

4.3.2.4 Centers & Bugental (1966)

After it had become customary, partly because of the work of Herzberg et al, to distinguish between "intrinsic" and "extrinsic" job factors, Centers and a co-worker set up a somewhat more restricted study than the 1948 study which we have mentioned above, this time with the express purpose of testing the following hypotheses: "...individuals at higher occupational levels... place a greater value on intrinsic job factors than would individuals at lower occupational levels. Individuals at lower occupational levels... place a greater value on extrinsic job factors." (*Op. cit.*, p. 193).

Data were derived from 692 respondents, divided over much the same occupational levels as were used in the 1948 study. The hypotheses were significantly supported (p. < .01) when the total white-collar sample was compared with the total blue-collar sample; within both samples, the expected differences show a consistent, though not significant trend.

4.3.2.5 Friedlander (1965)

Paradoxically, it seems that this study was conceived as a consequence of a misinterpretation of Maslow's theory. To quote Friedlander (1965, pp. 1/2): "The concept advanced by Maslow (1955)... in which the various needs of an individual can be placed in a hierarchy of prepotency, would seem generally applicable to all workers, regardless of social class. Self-actualization, described as the highest of those needs, should therefore be prepotent within all employees, regardless of any social distinctions." (Our italics).

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5 It is remarkable that most authors, when discussing "satisfiers" and "dissatisfiers", use a terminology which Herzberg et al (1959) never use; as we have mentioned (4.2.2), they used the definitions: "factors involved in doing the job" and "factors that define the job context". Very soon, however, they called the "satisfiers": "motivators" and the "dissatisfiers": "hygienes". The terms "intrinsic" and "extrinsic" do not occur in Herzberg's writings. Another way of expressing the distinction which has become more popular in recent years is "content factors" versus "context factors". Another distinction which has been tried is "affective component" versus "instrumental component." (Lodahl, 1964, p. 510).

As we have just seen, Gurin et al, (1960) contrast "extrinsic (dis)satisfactions" with "ego (dis)satisfactions; and the reader will remember from Part I that Maslow speaks of "growth needs" and "deficiencies". Finally, the treatment of the material in the present investigation will automatically lead to the distinction "high" factors versus "low" factors (or need categories).

In future we shall select the terminology according to the source of the material in question, be it Maslow, Herzberg, other authors or ourselves, whilst trying not to confuse the reader unduly.
This is one of the examples of the confusion between "prepotent" and "stronger" which we have mentioned earlier (1.4, footnote); in case the reader is still not quite sure of himself in this respect, we wish to stress once more that "stronger" and "prepotent" are completely independent concepts. By way of example: the social needs are (forever) prepotent over the esteem needs; however, when for a particular individual the social needs become basically fulfilled, the esteem needs "take over". They are then the strongest needs which dominate the motivational behaviour at the particular stage of the individual's development.

In accordance with his (incorrectly conceived) hypothesis, Friedlander sets out to verify: "Are stimuli in the work environment that are frequently considered opportunities for self-actualization (such as achievement, freedom, challenge, responsibility, etc.) of primary importance to all workers? Or are such values limited to specific occupational and status groups?" (Friedlander, 1965, p. 5).

Data were derived from 1,468 respondents to a survey that was also the basis of the 1963 study which we have quoted extensively earlier on (3.3).

Following the 14 items, the answers to which were analysed in that paper, respondents answered a question on the relative importance they attached to each of the aspects treated in these 14 items.

Using the answers to this question as data for the study under consideration here, Friedlander (1965) reports his results separately for each of three levels of white-collar workers and for each of three levels of blue-collar workers; furthermore, he bases his conclusions on the results of the factor analysis reported in the 1963 paper.

Friedlander states: "Blue-collar workers place significantly higher value upon security and upon peer work-group relations, while work that offers a sense of achievement, challenge, freedom, and the use of one's best abilities is of highly significant value to white collar employees." (Friedlander, 1965, p. 9).

However, as the differences between hierarchical levels within both the white-collar sample and the blue-collar sample are less distinct than the differences between these two occupational samples, Friedlander goes on: "It would appear that values are a primary function of one's occupational culture (white-collar or blue-collar), rather than of the level one has achieved within his occupational culture." (Friedlander, 1965, p. 16).

As we have seen, this last conclusion is not corroborated by the 3 studies we have quoted so far: the data from Centers (1948) (4.3.2.3) and Centers & Bugental (1966) (4.3.2.4) show consistent, even though not significant, within-sample differences; furthermore, a definite within-sample shift would appear to follow from the two types of work orientation found to exist within the blue-collar sample of Dutch construction workers (4.3.2.1).

On the strength of this additional material, and also, precisely, on the strength
of Friedlander’s own findings, we would definitely not support his conclusion (based, as we have seen, on a misunderstanding of Maslow’s theory) that: “It is apparent from the findings of this study that the value hierarchy suggested by Maslow is not universally applicable.” (Op. cit., p. 17).

4.3.2.6 Blai (1964)

Contrary to Friedlander (1965), Blai (1964, p. 383) seeks “... experimental evidence for a theory of human motivation proposed by Maslow.”

Apart from a few other items, Blai uses only 9 items which correspond to the Maslow categories. His relatively small sample of 470 Federal Government civilian employees is subdivided into 5 occupational levels; his study “directed itself to an investigation of the varying degrees of importance attached to ... needs by employed individuals.” (Ibid.).

The conclusions from this study, in so far as they are relevant to our present subject, are as follows: “The percentages of selection for each of the nine Maslow-matched needs are clearly in close harmony with Maslow’s theory. The lesser prepotent needs of Self-actualization, Advancement, Interesting duties, and Leadership were all selected in greater amounts, beginning with the Trades and ending with the Professions. Conversely, the more prepotent needs of Respect, Money Security, Congeniality, Independence and Job Security were all selected in greater amounts in the lower socio-economic groups (the Trades and Service Occupations) decreasing to the least amounts among the Managerial-Official and Professional groups.” (Blai, 1964, p. 385/386).

We feel obliged to amend this statement somewhat, in so far as the four “esteem” needs are concerned: we believe that the results are not as straightforward as Blai makes them out to be. It is probably not correct that “Independence” and “Respect” are prepotent to “Advancement” and “Leadership”. On the contrary: Independence (IIa) must be expected to be less prepotent than the other three (I.6.3). Therefore, our conclusion would be that the shift in relative importance which, generally speaking, certainly follows from Blai’s data, becomes somewhat “mixed up” for the esteem needs.

For the reader’s convenience we reproduce Blai’s data derived from his table 1 (op. cit., p. 386) in a somewhat clearer arrangement. (Table 4.3.2.6).

Apparently, what we have called “folklore” (for reasons which we shall make clear in due time), is confirmed by the data presented in this section in a more direct and more convincing way than by the shifting role of the social factors which we discussed in the previous section 4.3.1.

4.4 DISCUSSION

The material we have discussed in the sections 4.3.1 and 4.3.2 allows us to
place some confidence in the line of thought developed in section 4.2. We have shown that two consequences of Maslow’s motivation theory in the industrial situation were corroborated by research evidence. In the first place the shifting role — in terms of “satisfiers” and “dissatisfiers” — of some factors corresponding to the mid-range of the need hierarchy, and secondly the differential amount of growth along the need hierarchy; the point being that both phenomena, as had been foreseen, occur in relation to differences in the occupational-hierarchical level.

Taken together with the material we have discussed in Chapter 3, this would make quite a case for Maslow’s motivation theory in the work situation: we have seen the dynamic principle behind the hierarchy of basic needs at work, as it were.

However, there is one aspect which we have not looked into properly yet; it is the concept of the “dominating” need category which we have had to assume — the theory not being very clear on this point — in order to explain the data reported by Herzberg et al. On the basis of what we have learned so far, especially with respect to the changing roles of the social factors as “satisfiers” and “dissatisfiers”, we would expect the “dominating” need category — which marks the point of conversion between “satisfiers” and “dissatisfiers” — to be situated, for higher occupational-hierarchical levels, roughly between categories II and III, and for lower occupational-hierarchical levels roughly between categories III and IV.

If we once again turn to the literature, we shall have our work cut out this time to find the relevant data; studies of the relative importance or desirability

### Table 4.3.2.6

**Need selections by occupations, whole percentages (n = 470). Blai (1964)**

<table>
<thead>
<tr>
<th></th>
<th>(I)</th>
<th>(Ia)</th>
<th>(Iib)</th>
<th>(IIb)</th>
<th>(III)</th>
<th>(IV)</th>
<th>(IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>70</td>
<td>70</td>
<td>26</td>
<td>39</td>
<td>13</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Managerial-official</td>
<td>58</td>
<td>54</td>
<td>19</td>
<td>33</td>
<td>19</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Clerical</td>
<td>36</td>
<td>60</td>
<td>14</td>
<td>24</td>
<td>8</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>Service</td>
<td>18</td>
<td>34</td>
<td>41</td>
<td>13</td>
<td>6</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Trades-manual</td>
<td>19</td>
<td>33</td>
<td>25</td>
<td>19</td>
<td>5</td>
<td>36</td>
<td>34</td>
</tr>
</tbody>
</table>
of factors in the work situation seem to be mostly concerned with the *degree of need fulfilment* in that situation.⁶

We may, however, gather the information we need here from some of the papers we have discussed so far; even though the information is scanty, it is of such a nature that it may be considered conclusive.

We have collected the relevant data in table 4.4. Set off against the occupational hierarchy (column 1), we have indicated where the point of conversion between “satisfiers” and “dissatisfiers” is found according to the data from Herzberg *et al* (1959), Schwartz *et al* (1963), “Instituut voor Arbeidsvraagstukken” (1963) and Hofstede (1964).

Columns 3 through 6 show which need category was found to be strongest for each occupational-hierarchical level, according to Centers (1948), Schaffer (1953), “Instituut voor Arbeidsvraagstukken” (1963), and Blai (1964).

**TABLE 4.4**

*Point of conversion between “satisfiers” and “dissatisfiers”, and strongest need category according to 8 studies, by occupational level*

<table>
<thead>
<tr>
<th>Occupational level</th>
<th>Point of conversion between “satisfiers” and “dissatisfiers”</th>
<th>Strongest need category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large business managers</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>II-III (Herzberg (1959))</td>
<td>I</td>
</tr>
<tr>
<td>Small business managers</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Sales</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Clerical</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Skilled</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>Unskilled</td>
<td>IV</td>
<td></td>
</tr>
</tbody>
</table>

From this collection of data, however crude, it is sufficiently clear that this time we are on the wrong track. While the actual figures (which we omit for the sake of clarity) are such that one would never conclude that one particular need category was really "dominating" in the first place, it is also clear that the need categories which are rated strongest do not coincide with the point of conversion, which would be the case if they were actually responsible for the occurrence of the "satisfier/dissatisfier phenomenon". There just does not seem to be any relationship at all between the two.

Therefore, we find ourselves in the following position:

1. Our postulate concerning the differential growth along the need hierarchy, in harmony with the relative position in the occupational hierarchy (4.2.3, point 4) still holds, partly supported by direct evidence (4.3.2) and partly supported by indirect evidence derived from the change in role of the social factors in terms of "satisfiers" and "dissatisfiers". (4.3.1).

2. We have just found that our postulate of the "dominating" need category (4.1, 4.2.1), necessary for the explanation of the "satisfier/dissatisfier phenomenon" does not hold; the strongest need category does not coincide with the point of conversion between "satisfiers" and "dissatisfiers".

This is really a curious state of affairs: on the basis of certain theoretical considerations we make a correct prediction about an established phenomenon, only to find that those very considerations, necessary for the explanation of the phenomenon in the first place, seem to be incorrect.7

Only one conclusion can now follow: it will be decidedly desirable not to rely any longer on adaptations of existing data, but rather to undertake an actual study set up with the express intention of investigating the usefulness of Maslow’s theory for the industrial situation, bringing in all of the aspects we have encountered so far. We have discovered enough positive indications to make it likely that such a study will yield useful results, while, by the same token, we have found enough problems to make our effort worthwhile; problems that need clearing up and that can be cleared up only when they are tackled directly.

Furthermore, there are two more specific reasons why a systematic study of the various aspects we have dealt with is highly desirable, and which give a much wider scope to this investigation into the usefulness of Maslow’s theory

7 "It is also possible, of course, that [both hypotheses] are equivalent and both wrong — or inequivalent and both wrong. However, if it turns out that they are equivalent and one is right and the other is wrong, we will probably be in trouble.” (Gell-Mann, 1967, p. 14).
in the work situation (all this, of course, in addition to the more general reasons for our study which we have discussed in the Introduction).

The first of these reasons we have already touched upon, as it has caused us to speak, rather depreciatingly, of “folklore” in relation to the general expectation that individuals higher up in the occupational hierarchy would have “higher” needs than individuals on a lower rung of the occupational hierarchy. In the meantime we have been able to find some support for this belief, but our reason for using the term “folklore” was that this belief actually goes against the conviction of some of the best known experts on modern management.

As the professional reader will be aware, we are dealing here with a moot topic in the industrial psychological literature. We refer once again (see 2.7) to authors like Argyris, Drucker and McGregor (and Kuylaars in the Netherlands), who hold a view that is directly opposed to this “folklore”, namely that the run-of-the-mill industrial situation caters insufficiently to the workers’ need for responsibility, a sense of accomplishment in their jobs etc.; in short, that the higher needs, in terms of Maslow’s hierarchy, are stronger for the lower occupations than general belief (and practice) gives them credit for. And in so doing, these writers infer that for everybody these needs are equally strong, i.e. that everybody has grown up along the hierarchy of basic needs equally far.

As Friedlander (1965, p. 4) puts it: “. . . Argyris (1957) deplores the lack of need-satisfying and self-actualizing job stimuli available to the worker in an industrial environment which management has saturated with physical and security offerings. The question of whether self-actualizing needs are dominant in and thus applicable to blue-collar workers, or even to lower level white-collar workers, is avoided . . .”

Now on the basis of some of the research data we have presented, we may already conclude that it would seem that the extent to which an individual has grown “up” the need hierarchy correlates with the position in the occupational hierarchy, and that therefore Friedlander’s doubts here are justified.

Friedlander concludes the remark we have just quoted with an interesting observation: “Indeed, many social scientists, perhaps because of the nature of their own work and values, have so heightened the favorable image of self-actualizing people and self-actualizing work that, in effect, they are prescribing to all workers values that may be appropriate only to the higher occupational and status levels. Workers in other strata might still be attempting to satisfy less prepotent needs . . . Implicit in these prescriptions are potent value judgements which, with their strong emphasis on individual dignity, creative freedom, and self-development, bear all the earmarks of an academic origin.” (Friedlander, 1965, p. 4). Much the same point is made by Strauss (1963, p. 48).

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8 e.g. Kuylaars (1951), Drucker (1954), Argyris (1957), McGregor (1960), Bennis & Schein (1966).
In view of the actuality of the philosophy of Argyris c.s., as reflected in the managerial literature, and in view of Maslow’s misgivings with respect to indiscriminative application of the principles of Theory Y which we have discussed in section 2.7 and which we find supplemented here by Friedlander, it would seem that a systematic study of possible variations in need strength between various occupational-hierarchical levels may have a very practical usefulness indeed.

It will be of interest to establish once and for all in whom we should believe: in the experts, or in the “folklore” which up to this point in our narrative seems to be on the winning side. If the experts are right and the “folklore” is incorrect but none the less real, then some drastic changes in the prevailing attitude must be brought about if the right philosophy is to get a chance of being put into practice.

A second reason for carrying out a systematic study of some of the aspects we have touched upon in the course of this chapter is comparable to the first in that it also concerns a controversial topic in industrial psychology. The Motivation-Hygiene Theory which was developed on the basis of the “satisfier/dissatisfier phenomenon”, and which soon enjoyed wide acclaim, has recently met with rather strong opposition; it would be very useful, as a side-issue, to obtain some independent confirmation or disconfirmation of this theory; chances are that the solution to our paradoxical postulates are to be found there.
CHAPTER 5

The general design of the study

Whenever man becomes the object of research with regard to some aspect or other of his psychical-physical activity, science is confronted with a knot of hopelessly entangled interdependent factors. How is one to find the thread that leads to the solution?

Kuylaars: Werk en leven

5.1 GOALS

On the basis of our discussion up to this point, we can now enumerate the aspects which must be dealt with and which eventually determine the design of our study.

In the first place, an investigation into the dynamic aspect of the theory, the aspect of the growth through the hierarchy of basic needs, must be the main aspect of the design; a line of attack is suggested by the indications we have found in the literature of the systematic shift in relative need strength in relation to occupational level (4.3.2).

This implies, as a second aspect, that some conclusive insight into the relative importance of the seven categories of basic needs is called for, and indeed in such a manner that the controversial point of the relative greater strength of one particular need category may be settled; this is related to the more general question as to the relative effect which the fulfilment of needs in each of the seven categories has on the individual’s general satisfaction.

It also implies, in the third place, that the occupational level must be taken into consideration as a variable in the design, which means that a stratified sample of some sort is required.

In the fourth place, the “satisfier/dissatisfier phenomenon” must have a chance to manifest itself, and

Finally, we should like to obtain some more systematic insight into the “folklore” we have encountered, since it is opposed to the “expert lore”, as we have seen (4.4).

The exact formulation of the aspects to be considered and the relationships between them which we wish to investigate, lead up to a number of hypotheses. Before we write these out, two remarks are in order which concern their exact formulation.
The first remark has to do with the variable "strength of needs". We intend to operationalize the variable "strength of need" by replacing it by the (measurable) variable "importance attached to a factor in the work situation which corresponds to that need". In order to distinguish between the strength of a need per se and the relative fulfilment or frustration of it in an actual situation (the respondent's actual job), we shall, in the first case, refer to a "hypothetical work situation".

The second remark concerns merely the readability of the text of some of the hypotheses. As these are apt to be somewhat confusing, we have made a concession to readability by replacing the formal formulation "needs belonging to categories high (low) in the hierarchy of fundamental needs" by the more straightforward wording "higher" ("lower") needs", using quotation marks to remind the reader of the simplification and at the same time of the fact that no value judgements are implied.

5.2 THE HYPOTHESES

5.2.1 The "folklore": hypotheses $a_1$ and $a_2$

*Hypothesis* $a_1$. Normal contention is that factors in the work situation which correspond to the "higher" needs are more important to individuals of higher rather than of lower occupational levels.

*Hypothesis* $a_2$. Normal contention is that factors in the work situation which correspond to the "lower" needs are more important to individuals of lower rather than of higher occupational levels.

5.2.2 The actual need strengths: hypotheses $b_1$ and $b_2$

*Hypothesis* $b_1$. Factors in a (hypothetical) work situation which correspond to the "higher" needs are more important to individuals of higher rather than of lower occupational levels.

*Hypothesis* $b_2$. Factors in a (hypothetical) work situation which correspond to the "lower" needs are more important to individuals of lower rather than of higher occupational levels.

5.2.3 The "dominating" need category: hypothesis $b_3$

*Hypothesis* $b_3$. In both cases referred to in hypotheses $b_1$ and $b_2$, appreciably more importance is attached to factors corresponding to one particular category in the need hierarchy than to all others.\(^1\)

\(^1\) Making allowance for the possibility that two adjacent categories are "dominating".
5.2.4 "Satisfiers" and "dissatisfiers": hypothesis $\gamma_1$

Hypothesis $\gamma_1$. Factors in the work situation which fulfil the "higher" needs give rise to satisfaction "(satisfiers')"; those which do not fulfil the "lower" needs give rise to dissatisfaction ("dissatisfiers"); there is no effect in the complementary cases.

5.2.5 The explanation of the "satisfier/dissatisfier phenomenon": hypothesis $\gamma_2$

Hypothesis $\gamma_2$. The point of conversion between the "satisfiers" and the "dissatisfiers" referred to in hypothesis $\gamma_1$ corresponds to the need category referred to in hypothesis $\beta_3$ (and moves along the need hierarchy accordingly).

5.2.6 Proof of the "satisfier/dissatisfier phenomenon": hypotheses $\delta_1$ and $\delta_2$

Hypothesis $\delta_1$. The correlation between the general job satisfaction and the relative fulfilment of the "higher" needs will be higher than the correlation between general job satisfaction and the relative fulfilment of the "lower" needs.

Hypothesis $\delta_2$. The correlation between the general job satisfaction and the relative frustration of the "lower" needs will be higher than the correlation between job satisfaction and the relative frustration of the "higher" needs.

5.3 Requirements

The restatement of the aims of the study in the form of the preceding hypotheses now enables us to derive from these concrete formulations the concrete requirements which the design of our study must fulfil. These requirements have a direct bearing on the methods and instruments to be used, and to which the next chapter will be devoted.

1. The first requirement is, of course, that the aspects of the work situation on which measurements are to be carried out, both with regard to their importance and with regard to the degree of satisfaction or dissatisfaction connected with them, must be interpretable univocally in terms of Maslow's categories of basic needs, to ensure that their position in the need hierarchy be defined in all cases.

2. From the high incidence of comparatives such as "higher", "lower", "more", "rather than" (and from the word "correlation") it follows that data will have to be collected quantitatively, i.e. through some form of measurement. Such measurements will have to be carried out on the following aspects:
   a. The opinion of (groups of) individuals on the relative importance
attached to factors in the work situation by other (groups of) individuals. (Consequence of the hypotheses $\alpha_1$ and $\alpha_2$).

b. The relative importance attached to factors in a hypothetical work situation by (groups of) individuals on various occupational levels. (Consequence of the hypotheses $\beta_1$ and $\beta_2$).

c. The relative importance attached to various factors in a hypothetical work situation when compared with each other. (Consequence of the hypotheses $\beta_3$, $\delta_1$ and $\delta_2$).

d. The relative degree of satisfaction and dissatisfaction with various factors in the work situation. (Consequence of hypothesis $\gamma_1$).

e. The general job satisfaction of various (groups of) individuals. (Consequence of the hypotheses $\delta_1$ and $\delta_2$).

3. The hypotheses $\gamma_1$ and $\gamma_2$ concern both fulfilment and non-fulfilment of needs: how satisfied individuals are when their needs are fulfilled, and how dissatisfied they are when their needs are frustrated. Now fulfilment of a need may, of course, be a function of two conditions: 1) the presence, in the situation, of a factor which is agreeable to the individual, and 2) the absence, in the situation, of a factor which is disagreeable to him. Conversely, frustration of a need may be a function both of 1) the absence of a desirable factor and of 2) the presence of an undesirable factor.

We touch here upon an aspect of motivational behaviour which, in the opinion of the present author, has been neglected too much.

It is true that both "goal directed behaviour" and "avoidance behaviour" are familiar concepts, but the relationship between the two has not been studied sufficiently. As it is, there is no reason whatsoever to suppose that the one is in every respect exactly the opposite of the other. Indeed, we feel the importance of the contribution of the work by Herzberg et al (1959) to be precisely that they have drawn attention to the fact that in terms of satisfaction and dissatisfaction the various needs do not act in the same manner with respect to what we shall henceforth call the "positive" and the "negative" sense; that is, in the sense of fulfilment and of frustration respectively.

For this reason we feel that it is important to test the hypotheses $\alpha_1$, $\alpha_2$, $\beta_1$, $\beta_2$ and $\beta_3$, both in a positive and in a negative sense, in exactly the same fashion as it is done for the hypotheses $\gamma_1$ and $\gamma_2$. This intention does not follow explicitly from the wording of these hypotheses, but it has been expressed in fig. 5.3, where the hypotheses $\alpha_1$, $\alpha_2$, $\beta_1$, $\beta_2$, $\beta_3$, $\gamma_1$ and $\gamma_2$ as well as their interrelations are represented graphically.

2 The expressions "non-fulfilment" and "frustration" will be used undiscriminately throughout.
Fig. 5.3
The hypotheses $\alpha$, $\beta$ and $\gamma$
Fig. 5.3a, which illustrates the hypotheses $\beta$ (and $\alpha$) concerning the (expected) relative strength of the categories of fundamental needs, has a negative as well as a positive sense, as do figs. 5.3b and 5.3c which illustrate the hypotheses $\gamma$. Lacking the factual evidence for any theoretical expectation to the contrary, we have drawn fig. 5.3a in a symmetrical fashion, in contrast with figs. 5.3b and 5.3c.

This last point should be emphasized; the fact that we have drawn a symmetrical graph does not imply that we expect that it should actually be symmetrical; we merely lack the information to surmise otherwise (and hence the hypotheses $\alpha$ and $\beta$ do not mention this aspect).

Indeed, there might even be some reason to expect an asymmetrical picture for the hypotheses $\beta$. After all, we must remember that the “asymmetrical” hypothesis $\gamma_1$ has been drawn up on the basis of evidence produced by Herzberg et al (1959) and our explanation of these data based on the hypotheses $\beta_1$, $\beta_2$ and $\beta_3$. There is no lack of arguments in this direction. The reader will remember that our explanation also calls for the factors corresponding to the “dominating” need to be “higher” factors than the “dissatisfiers”, and this has been found to be the case in practically all instances we have cited. However, one major amendment is in order: our explanation also calls for the factors corresponding to the “dominating” need to be always “satisfier” and “dissatisfier” at the same time (4.2.1). And, as we have seen, the data do not always confirm this; usually factors are mostly either “satisfier” or “dissatisfier”. (Tables 3.4 and 4.3.1.2). Furthermore Herzberg (1966, Ch. 7) denies it, and supports this denial by a great number of data (e.g. op. cit. pp. 97, 98, 102, 104, 106, 108).

Thus the factors corresponding to the “dominating” need category behave, just like all other factors, in an asymmetrical manner, whereas our explanation wishes them to act symmetrically. Obviously, this, in turn, might be explained when the “dominating” need categories are not symmetrical, i.e. when one need category is strongest in the positive sense, and another need category is strongest in the negative sense, which would mean “asymmetrical” hypotheses $\beta$ of some sort or another.

A rather far-fetched argument such as the one just spelled out cannot be incorporated into a formal hypothesis; we have persued it only in order to stress the point that nothing is known as to the symmetry of the hypotheses $\beta$, and hence about the symmetry of “goal directed” and “avoidance” motivation. Our conclusion must therefore be that we can add another requirement, namely that all measurements, and particularly those for the hypotheses $\beta_1$, $\beta_2$ and $\beta_3$, must be carried out both in the “positive” and in the “negative” sense.

The result of this conclusion, combined with requirement 1, is that the instrument to be designed to take measurements that have a bearing on the hypotheses $\beta_1$ and $\beta_2$ and $\beta_3$ (henceforth to be called instrument $\beta$) will resemble very much the one that will have to be designed for the hypotheses $\gamma_1$ and $\gamma_2$ (instrument $\gamma$). It will then be logical to go one step further and make them equal to such an extent that both sets of measurements may also be compared,
so that, for each need category, direct comparisons are possible between the strength of a need category and the satisfaction or dissatisfaction concurrent with its fulfilment or its frustration.

So much for requirement 3.

Finally, there are some requirements of a more general nature:

4. The occupational level of the subjects in the study must be distinguishable, at least in relative terms, but preferably in more absolute terms. (Consequence of the hypotheses \( \alpha_1, \alpha_2, \beta_1, \beta_2, \beta_3 \) and \( \gamma_2 \)).

5. Method and instruments must be suitable for utilization in the industrial setting. (Consequence of the hypotheses \( \beta_1, \beta_2, \beta_3, \gamma_1, \gamma_2, \delta_1 \) and \( \delta_2 \)).
CHAPTER 6

The instruments

— But in suspending his voice — was the sense suspended likewise? Did no expression of attitude or countenance fill up the chasm? — Was the eye silent? Did you narrowly look? — I look’d only at the stop-watch, my lord. — Excellent observer!

Laurence Sterne: Tristram Shandy

6.1 OPERATIONAL REQUIREMENTS

The requirements which have been set forth in the previous chapter rather restrict the choice of method of data gathering. Open interviewing is out of the question: one needs questionnaires of a very systematic design with carefully chosen items and precoded answers.

With regard to the construction of such instruments, the general requirements 4 and 5 (5.3) need not specially concern us; it will be sufficient if we bear in mind the situation in which the study is to be carried out, and the occupational levels of the subjects which will eventually take part in it.

The more specific requirements 2a through 2d and 3 (5.3) have a direct bearing on the construction of the instruments $\beta$ and $\gamma$. To facilitate discussion of this aspect, we shall treat these requirements in reverse order; since requirement 2e applies to a different instrument (instrument $\delta$), we shall discuss it later (6.3.3).

Ad 3. Our conclusion reached at the end of the discussion of this requirement, that it would be logical and useful to make the instruments to be designed for the $\beta$- and the $\gamma$-hypotheses as identical as their different uses will allow, means that the item by which the importance of a certain job aspect is measured (instrument $\beta$) should have essentially the same content as the item which measures the satisfaction or dissatisfaction with that job aspect (instrument $\gamma$). On the other hand, however, we do not wish the scores on these items to influence each other, i.e. we wish to keep the response to the one item independent of the response to the other: and this would require the items to be different. We are here immediately confronted with a dilemma.

Ad 2d. The same is true of the requirement under 2d. As we have discussed
in section 5.3, the fact that we wish to compare the relative degree of satisfaction on fulfilment and dissatisfaction caused by non-fulfilment of certain needs (hypothesis $\gamma_1$) means that the factors corresponding to the various need categories should appear in the instrument in a positive as well as in a negative sense. This, in turn, means that the items by which these needs are being measured should be written in a positive as well as in a negative sense, and as measurements on these items are to be compared, they should otherwise be identical. Here we run into a similar dilemma as the one above.

Avoiding that the score given on a positive item (an item referring to fulfilment of a particular need) might influence the score on the corresponding negative item (the item referring to frustration of that same need), and vice versa, is in this case particularly important in view of the "asymmetrical" nature of hypothesis $\gamma_1$. If the format of the instrument should make it possible for the respondent to make a direct comparison between answers to the positive and the negative version of the same item, then we must be prepared to expect identical scores even if the respondent would feel differently, because an "asymmetrical" answer might appear illogical to him. The result of this would be that the asymmetry predicted by hypothesis $\gamma_1$ would be artificially suppressed.¹

At this point we must stress the distinction between an "item" and a "sentence" in order to avoid confusion with respect to what follows.

It is important to realize that a positive item need not necessarily consist of a positive sentence, nor that a negative item must consist of a negative sentence. For instance, the sentence "My capacities are not left unused" is a positive item, since it refers to the fulfilment of a need (in this case a need belonging to category I: self-actualization); linguistically, however, this item is a negative sentence since it contains a negation. On the other hand: "I learn from my work" is a positive item as well as a positive sentence; "I do not learn from my work" is both a negative item and a negative sentence; finally, "My capacities are left unused" is a negative item but, at the same time, a positive sentence.

For better understanding, we may collect the examples just given in a fourfold table, as follows (table 6.1):

¹ Recently, Thierry (1968) published material based on a "two-sided" questionnaire in which both versions of each question were administered to the same respondent. For virtually all items, the mean scores on the "positive" and the "negative" version of the question add up to approximately the same total, i.e. when a particular aspect of the work situation is considered pleasant, then the reverse is considered unpleasant to approximately the same degree. (Op. cit., appendix and p. 194). We feel that the procedure followed here does not justify Thierry's conclusion that "Herzberg's 'two-factor' hypothesis has been falsified". (Op. cit., pp. 194 & 218).
Since it is unknown what may be the influence of negative as against positive sentences if they are used undiscriminatingly on a questionnaire, it will be necessary to distribute negations equally over both positive and negative sentences.  

Ad 2c. So far we have suggested that it should be necessary, in view of the various comparisons which must be made, to make use of items which have the same content (though they will be different in form). This is satisfactory (forgetting for the moment the dilemmas with which we have just been confronted) if we wish to compare the importance of a need category with the extent to which it is fulfilled, or if we wish to compare the satisfaction and the dissatisfaction connected with the same need category. But if we wish to compare the importance attached to two different need categories (hypotheses $\beta_3$, $\delta_1$ and $\delta_2$), the problem becomes essentially insoluble, because it is impossible to represent different need categories by items of the same content. The best we can do then is to represent each need category by as many items as possible, and to make sure that the items representing each category are as it were random samples of all items that can be thought of as representing all needs belonging to that category. Further on we shall see to which extent this requirement has been met in practice (6.2).

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2 The following quotation illustrates that little is known about such an influence: “It is remarkable . . . how little attention has been paid to [negative] sentences until quite recently. In general, descriptive linguistics show an obvious grammatical preference for positive sentences rather than for negative ones, indeed to such a degree that the latter are as such usually never treated in grammar texts. The information on negative sentences is restricted to words such as not, nothing, nobody, nowhere, never, no, etc., while furthermore there is practically no question of any systematizing of such information.” (Kraak, 1966, p. 90; translation by the present author).
The use of more than one item to represent each need category offers a way out of the dilemmas with which we have been confronted above. The only way out of a dilemma is a compromise, and the compromise here is not to compare measurements on identical items but on items which are different but which belong to the same basic need category.

Under properly chosen circumstances this results in comparable measurements on these need categories (instead of on the incidental items) and, after all, that is exactly what is needed: in this investigation we do not operate on the level of incidental needs, but on the level of categories of basic needs.

An example will show more clearly what we have in mind: a certain need category, of which we wish to compare measurements of the degree of satisfaction on fulfilment and of the degree of dissatisfaction on non-fulfilment (5.3, requirement 2d), is represented by two items "A" and "B"; if we take need category I as an illustration, item A might concern the aspect of self-actualization "to learn and to know more and more"; item B would then concern another aspect in that category, e.g. the ability to fully deploy one's capacities. Let "A" be a positive item and "B" a negative one; we may then measure satisfaction by the scores on item "A" plus the scores on the item "not-B". (See table 6.1). Dissatisfaction is then measured by the scores on the item "not-A" plus the scores on item "B". Now "A" and "not-A" are items which are, of course, essentially the same in content: they apply to the same concrete aspect; apart from the negation, their wording is identical. Therefore, in order to avoid the mutual influencing of scores, the items "A" and "not-A" should not appear in the same instrument, which means that we can compare only the score on the positive item "A" with the score on the negative item "B" on the one instrument, and likewise the score on the positive item "not-B" with the score on the negative item "not-A" on the other.

This means that we need two instruments, as well as two groups of respondents to answer each one. To the extent that both items represent the same category equally well and to the extent that both groups of respondents are comparable with regard to such parameters as might conceivably influence the scoring, it may be said that the positive and the negative scores are comparable when we combine corresponding scores on the two instruments.

What we are actually doing is combining item scores in order to obtain category scores. This scheme may be extended to include the comparison of scores on instruments $\beta$ and $\gamma$ in exactly the same manner, which means that the minimum of two items per need category as well as the minimum number of instruments is then doubled to four. As will be seen further on, it has been found quite difficult in practice to construct even as few as this minimum of four items to represent each need category, and so what we have described here is actually the basic scheme for the instruments used in this study.

Since the four instruments are actually four versions of one instrument which are completely identical with respect to general context and format and which differ only in a systematic way as to item-content, we shall henceforth speak of an instrument as consisting of four lists. These are distinguished as lists A, B, C and D.

En passant, we wish to draw attention to two advantages of the instrument thus constructed.

The first is an obvious one: it originates from the fact that, according to the scheme just explained, each list will contain either positive or negative sentences. This may tend to lessen the possibility of misreadings and will hence improve the reliability of the instrument.
The second advantage is a statistical one. The fact that for each item the positive and the negative versions are not answered by the same respondent not only prevents that scores would influence each other mutually, but it also means that the samples of individuals from which the scores on the positive and on the negative items (and on the \( \beta\) and \( \gamma \)-items) are derived, are independent; they are different samples from the same population. This means that the powerful Mann-Whitney U test (or Wilcoxon test) may be applied when score distributions are compared.\(^3\)

*Ad 2b.* The condition that the instrument be intended for subjects both high and low in the industrial hierarchy merely means that the items and the format in general should be acceptable to, and have the same meaning for, individuals within a fairly broad intellectual and social range. This would seem feasible, though especially the latter criterion may provide some stumbling blocks which may easily escape notice: as is well known but often forgotten, the same word may mean different things to individuals at different social levels.

*Ad 2a.* The requirement for an instrument which measures the opinion of subjects on the relative importance which other individuals attach to factors in the work situation is satisfied in a relatively simple manner: we might use an instrument containing essentially the same items as instruments \( \beta \) and \( \gamma \), in combination with a number of occupational levels.

So much for the requirements for the questionnaire which have a direct bearing on its construction. Requirement 1, to the effect that the aspects of the work situation be interpretable univocally in terms of Maslow's categories of basic needs, the one requirement which still remains, has a bearing on the contents of the questionnaire which we shall treat in the next section.

At this point a few general remarks should be added:

A. If different lists, all containing the same items in different contexts are used, and data which have been obtained by means of such lists are being compared, it must be realized that the *sequence* in which items occur in each list will have a bearing on the meaning of each item since the answer given on a certain item may be influenced in some unknown manner by a possible "set" caused by the preceding items.

B. If *response scales* are used, attention should be paid to the directions of these scales when the scores on negative and positive items are being compared. This is again of special importance in connection with the Herzberg theory, which has given rise to the "asymmetrical" hypothesis \( \gamma_1 \). If scale directions, category sequences and positive or negative items are not carefully balanced out, then the hypothesized asymmetry could conceivably be brought about artificially.

C. The instrument should be designed in such a way that its *reliability* can be assessed.

D. The instrument should contain a means of estimating its *content validity*. Since the instrument is designed to measure 7 well-defined and supposedly independent

\(^3\) Siegel (1956), pp. 116 ff.
categories, a factor analysis would provide a good check on whether each item measures what it purports to measure, i.e. whether each item is a sample representing its proper category. This means that the data collected by means of the instrument should lend itself to such treatment.

E. A way to establish the predictive validity of the instrument is, of course, a cross-correlation with a relevant external criterion. This means that the possibility to obtain measurements on such a criterion (or criteria) should be incorporated.

6.2 THE ITEMS

The first requirement stated in section 5.3, to the effect that the factors in the work situation which are treated in the instrument should be interpretable univocally in terms of Maslow’s categories, means that the best way to operationalize these categories is to use Maslow’s own descriptions of them. In Maslow (1954) we find a great amount of descriptive material on pp. 80-92, 120 and 200-201.

I Self-actualization

- doing what he is fitted for (p. 91)
- what a man can be, he must be (p. 91)
- self-actualization (pp. 91, 120, 200)
- self-fulfilment (pp. 91, 120, 201)
- become actualized in what he is potentially (pp. 92, 201)
- become more and more what one is (p. 92)
- become everything that one is capable of becoming (p. 92)
- self-development (p. 102)

(2) more and more complete development and fruition of one’s resources and potentialities (p. 120)
- growth (p. 120)
- fitness (p. 120)
- suitability (p. 120)

(1) learning and knowing more and more (p. 120)
(4) full use and exploitation of talents, capacities, potentialities (p. 200)
(3) doing the best that they are capable of doing (p. 201)
- full stature of which they are capable (p. 201)

IIa Self-esteem

- stable, firmly based, high evaluation of self (p. 90)
- self-respect (pp. 90, 120)
- self-esteem (pp. 90, 120)
- strength (pp. 90, 91)
- achievement (pp. 90, 120)

*Maslow’s later works which deal extensively with self-actualization, would, of course, have been an abundant source of descriptions for category I. At the time of conception of the present research, these publications were relatively new or yet unpublished (1965) and were therefore unknown to the present author.*
6.2 adequacy (pp. 90, 91)
mastery and competence (p. 90)
(2) confidence (in the face of the world) (pp. 90, 120)
independence (p. 90)
freedom (p. 90)
worth (p. 91)
capability (p. 91)
(3) being useful and necessary to the world (p. 91)
capacity (p. 91)
competence (pp. 91, 120)
self-reliance (p. 120)
trust in oneself (p. 120)
(1) ability (p. 120)
(4) inferiority (p. 91)
weakness (p. 91)
helplessness (p. 91)

IIb Respect

esteem of others (p. 90)
reputation (p. 90)
(1) prestige (= respect from other people) (pp. 90, 120)
status (p. 90)
(3) dominance (p. 90)
(4) recognition (p. 90)
attention (p. 90)
importance (p. 90)
(2) appreciation (p. 90)
respectworthiness (p. 120)
(3) leadership (p. 120)
autonomy (p. 120)

Since the distinction between categories IIa and IIb is indicated by Maslow only in a general sense, and since the terms used are sometimes ambiguous in themselves, we have been obliged to omit a few which we could not place with confidence in either category. The same applies for the next two categories.

IIIa Love for others

(1,2,4) loving, giving love (pp. 90, 120)
(3) respect for others (p. 121)
(1,2,4) affection for others (p. 121)
better citizen, neighbour (p. 122)
identification with others (p. 122)

IIIb Belongingness

(4) a place in his group (pp. 89, 120)
(2,3) receiving love, being loved (pp. 90, 120)
belongingness (p. 120)
acceptance (p. 120)
(1) being loveworthy (p. 120)
IV Safety

safety (pp. 84, 85, 120)
(2) a place in which anything at all may happen (p. 85)
stable things become unstable (p. 85)
(1) protection (pp. 85, 86, 120)
reassurance (p. 85)
(3) undisturbed routine or rhythm, schedule (p. 86)
(3) predictable, ordered world (p. 86)
(4) injustice (p. 86)
unfairness (p. 86)
inconsistency (p. 86)
(3) something that can be counted upon, not only for the present but into the far future (p. 86)
(3) predictable organized world (pp. 86, 87, 88)
(2) unexpected, unmanageable things do not happen (p. 87)
peaceful, smoothly running, good society (p. 87)
(1) a job with tenure and protection (p. 87)
savings account (p. 87)
insurance (p. 87)
preference for familiar rather than unfamiliar things (p. 88)
(3) preference for the known rather than the unknown (p. 88)
peace (p. 120)

V Physiological needs

Under this heading Maslow discusses only the pure physiological needs which have to do with homeostasis of the body: needs for certain body chemicals, food, water, etc.; as possibly non-homeostatic he refers only to such elementary needs as sex, sleep, activity and maternal behaviour.

At this level, of course, we find nothing which applies to the work situation, and we are therefore obliged to devise four items in this category which might have something to do with the physical conditions connected with the job. It remains to be seen, then, to what extent these items make up one category which might be equated to a category "physiological needs"; the factor analysis of our research data will provide this information (8.7.2.3).

We propose to use the following aspects of the work situation as representing the physiological needs:
(1) Favourable working hours
(2) Tiring work
(3) Clean and tidy surroundings
(4) Travelling distance to and from work

From these seven groupings we have chosen those descriptions which yield items which:
1. make sense when used in relation to various types of work situation;
2. are acceptable to, and make good sense to, respondents of various backgrounds;
3. mean the same thing to respondents with various backgrounds;\(^5\)
4. may be used in different contexts with no variations other than purely grammatical ones, namely in relation to hypothetical as well as in relation to actual work situations;
5. will not change in meaning when changed from the positive into the negative or \textit{vice versa};\(^6\)
6. will retain the original (American) meaning when translated into Dutch.

On going through the seven groupings with these requirements in mind, it will soon become clear that our choice was quite a limited one. Indeed we have found it difficult enough to construct the minimum number of four items for each category; nor has it usually been possible to follow exactly the wording which we took from Maslow's text. In view of what we have said (6.1, ad 2c) about the necessity of making a random choice from all possible items representing one particular category, we wish to point out that these restrictions, which are of a linguistic nature, in fact bring about a sampling which is "psychologically" random, since both criteria may be considered mutually independent.

The descriptions which most closely resemble the items as they were eventually used, are those which have been marked with the bracketed numbers 1 through 4.

The English translations of the (Dutch) items used in the questionnaires may be found in appendices 1, 2 and 3.\(^7\)

Each appendix shows the \(4 \times 7 = 28\) items in their positive as well as in their negative form. It may easily be verified that in each form two of the four sets of items are positive sentences and two are negative sentences; each changes from positive to negative or \textit{vice versa} by the addition or the deletion of the negation. The encircled textnumbers mark the sets of negative sentences.

\(^5\) In the course of our pilot studies, we noticed several instances of words with "loaded" meanings or at least meanings different from those which were intended. Thus it was noticed that among blue-collar workers, the word "zelfstandigheid" (independence) was often interpreted in a negative sense as "to be left to fend for oneself"; "having friends" was interpreted in terms of "unfair protection"; "future" was without exception identified with "promotion".

\(^6\) Actually, this is more of a stumbling block than may be realized at first glance. Cf the difference in meaning between "a good job" and "not a bad job", "capable" and "not incapable".

Furthermore it was realized that the higher needs are more often represented by a positive terminology ("self-actualization", "growth", "esteem", "confidence", "freedom", "recognition", "love", "affection", "belonging") whereas the lower needs are frequently mentioned in a negative sense ("anything may happen", "unstable", "routine", "injustice", "unfairness", "inconsistency", "tiring", "travelling distance").

\(^7\) The original Dutch items appear in appendices 4, 5 and 6.
As will be noticed on comparison of the three appendices, each sentence occurs in three slightly modified constructions. These constructions of the sentences fit the item to the “key sentence” of each instrument α, β and γ, which will be treated in the next section. Since the contents of the items are identical for the three instruments, it is the key sentence which determines their different character.

6.3 THE INSTRUMENTS α, β, γ AND δ

6.3.1 The key sentences: instruments α, β and γ

To recapitulate, the four sets of hypotheses α, β, γ and δ each require different instruments, also identified by α, β, γ and δ respectively. As has been explained in the last section, the instruments α, β and γ contain items which are identical as to basic contents, but which are only slightly different in grammatical construction in order to fit them to the key sentence which determines the character of each particular instrument.

Instrument α is designed to measure the opinion of the respondent about the relative importance which other individuals representing various occupational levels attach to various job factors. Hence, the key sentence to which the items in this instrument must fit, reads: “For a ... (follows name of an occupation) ... it is pleasant (unpleasant) ... if ... (follows item)”.

Instrument β measures the opinion of the respondent himself about various (hypothetical) job factors; the key sentence now runs: “I would consider a job pleasant (unpleasant)... where ... (follows item)”.

Instrument γ finally concerns the degree of satisfaction and of dissatisfaction attached to various job factors in the actual work situation in which the respondent finds himself. Accordingly, the key sentence reads: “In my actual job I find it pleasant (unpleasant)... that ... (follows item)”.

It will be seen that the items in appendices 1, 2, and 3 have been written to fit these three types of key sentences.

6.3.2 Instruments β and γ

The instruments β and γ may be found in appendix 7, which shows the arrangement of the introductory texts, the key sentences, the answer scales and the training items; the “real” items (the texts of which may be found in appendices

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8 It goes without saying that the items which were eventually used in the present study have been tried out and modified in field studies set up for that purpose. The intuitive, groping, heuristic nature of this work would make it too cumbersome — and indeed virtually impossible — to report it in this context.
2 and 3 in English and in appendices 5 and 6 in Dutch) have, for the sake of brevity, only been given in symbols.

Appendix 7 is in fact a combination of the four lists which together make up the instruments.\(^{(6.1)}\). Care has been taken that lists A and C, which both contain items consisting of positive sentences, also contain training items which are positive sentences; lists B en D, which contain items consisting of negative sentences, have only training items which are negative sentences. The training items do not appear in the appendices 2 and 3 (5 and 6).\(^9\)

The symbols used on pp. \(\beta\) 1.2, \(\beta\) 2.2, \(\gamma\) 1.3 and \(\gamma\) 2.3 in appendix 7 should by now be familiar to the reader:

\(\beta\) and \(\gamma\), designating the two instruments
A, B, C and D, designating the four lists
+ and -, the positive and negative forms of each list
I, IIa, IIb, IIIa, IIIb, IV and V, designating the seven Maslow categories
1, 2, 3 and 4, the textnumbers designating the four sets of positive sentences.
(1), (2), (3) and (4), the textnumbers designating the four sets of negative sentences.

Thus the first (real) item on p. \(\beta\) 1.2, on list A, item nr. 6, is IIb/3, which is found in appendix 2 to read: “... where I could easily get others to do what was necessary”. Page \(\beta\) 1.2 contains, in list A (and list C) the \(\beta^+\) items; accordingly, IIb/3 is a positive item.

The simplest way to show that the scheme satisfies the operational requirements set forth in section 6.1, is by checking for one item only, by way of example. The requirements which are relevant here are requirements “ad 2c”, “ad 2d”, and “ad 3”, and the general remarks A through E which we have added later.

Requirement “ad 2c” means that on both instruments \(\beta\) and \(\gamma\) we wish to compare scores on the seven need categories. As we specified later (Remark A) the prerequisite for this is that a possible influence of the sequence in which the categories occur in the instruments be cancelled out: this has been done by mixing the categories in as symmetrical a way as possible\(^1\) and by reversing the sequences in lists A and B versus C and D.

Requirement “ad 2d” reads in terms of the scheme: for each item in the positive part of instrument \(\gamma\) there should be a corresponding item in the negative part of that instrument. It is easily seen that this requirement is satisfied by the lists A versus B and C versus D: for example, take item 1 in list A\(^+\), (page \(\gamma\) 1.3) which is the item IIIb/1. Its counterpart, the item IIIb/1 is found as item 1 on the same page in list B\(^-\), heading the same sequence.

Even though it is not specifically required by the hypotheses, the positive and the negative parts of instrument \(\beta\) are automatically comparable also, just as they are for instrument \(\gamma\), because of the systematic treatment of both \(\beta\) and \(\gamma\)-items in the scheme.

\(^9\) In appendix 8 we give a facsimile of an original list A in Dutch.

\(^1\) By this “symmetrical mixing” we mean that we have transformed the sequence 1-2-3-4-5-6-7 into the sequence 3-6-1-4-7-2-5. This particular sequence was chosen because it is the only “symmetrical” sequence (with rank 4 in the central position) in which odd an even ranks alternate and ranks 1 and 7 do not occupy the first or the last position.
Requirement "ad 3" may be translated to read in terms of the scheme: for each item in instrument $\beta$ there should be an item in instrument $\gamma$ which is in the same position in the same sequence of items, and which has the same textnumber.

The first item (after the training items) in instrument $\beta$, list $A^+$ (p. $\beta$ 1.2), item 6, is the positive item IIb/3 heading the sequence IIb, IV, I... The same positive item IIb/3, heading the identical sequence, is found as item 1 in instrument $\gamma$ in list $C^+$ (p. $\gamma$ 1.3).

Remark B is concerned with a proper balance in the direction of the response scales. This balance has been effected by reversing the direction of the scales in lists $B$ and $D$ as compared to lists $A$ and $C$ (appendix 7, footnote on page $\beta$ 1.1): in the first example given, we compare item 1 in list $A^+$ (page $\gamma$ 1.3), item IIIb/1 (for which the scale runs from "does not apply" to "extremely pleasant") with item 1 in list $B^-$, on the same page, item IIIb/1 (for which the scale runs from "extremely unpleasant" to "does not apply"). This pair is balanced by item 8 in list $B^+$ (page $\gamma$ 2.3), item IIIb/8 (for which the scale runs from "extremely pleasant" to "does not apply") which is compared with item 8 in list $A^-$, on the same page, item IIIb/4 (for which the scale runs from "does not apply" to "extremely unpleasant").

In the second example, the two items are found in list $A^+$ and list $C^+$ respectively. This pair is balanced by item 18 in list $B^+$ (page $\beta$ 2.2), item IIIb/2, and item 8 in list $D^+$ (page $\gamma$ 2.3), item IIb/2 (which are both in the same position in the same sequence); therefore, the scale directions for the second pair of items are reversed with respect of those for the first pair.

Remark C, which requires that an estimate of reliability be derived from the data obtained, is in general automatically met when two or more comparable instruments are being used; reliability measures may then be derived from comparisons of data derived from these instruments. In the present case, for instance, the instrument $\beta^+$ is identical to the instrument $\beta^-$ when the four lists are combined. Therefore, as differences between scores for $\beta^+$ and $\beta^-$ are not formally expected (cf section 5.3), the degree of conformity of results obtained by means of instruments $\beta^+$ and $\beta^-$ is a measure of their reliability. The same goes for instruments $a^+$ and $a^-$; the reliability of instruments $\gamma^+$ and $\gamma^-$ will have to be inferred from the results obtained for the other instruments on the strength of their comparable contents, since in the case of instruments $\gamma$, a difference is hypothesized between positive and negative scoring.

According to remark D, data obtained with the instruments $\beta$ and $\gamma$ should lend themselves to factor analysis.

We have seen that, because of the various comparisons to be made, no respondent should be confronted with the same item in different contexts, and this was why we had to use four instruments of identical format instead of one. (Four lists which together make up one instrument; $6.1$.)

This also means, however, that, on every list, every category is represented in each form ($\beta^+$, $\beta^-$, $\gamma^+$, $\gamma^-$) by one item only; hence scores on the four items, representing each category in one particular form, are given by four different sets of respondents so that intercorrelations of these scores cannot be obtained and no factor analysis can be carried out.

It therefore turns out that the manner in which the instruments are conceived, namely, split up in four identical lists, makes it impossible to factor analyse the data thus obtained. Obviously, therefore, this requirement can never be met under the circumstances given.

Evidently the solution to this problem is to combine the appropriate parts of lists A, B, C and D in such a way that all items occur in the same form. We have chosen
the form $\beta^+$, and accordingly a new instrument has been constructed by an appropriate combination of the $\beta^+$-parts of each list.

At this stage, before we turn to remark E which also concerns this matter of validity, yet another remark is in order. After remarks D and E were made, the reader has been informed about the way in which the items have been chosen. This method has a direct bearing on the question of the validity of our instrument.

Cronbach and Meehl (1955, p. 282) mention, after “criterion-oriented validation procedures” (our remark E! (6.1)) a second type of validation which they call “content validity” but which differs from the kind of content validity which we had in mind in remark D (6.1). They state: “Content validity is established by showing that the test items are a sample of a universe in which the investigator is interested. Content validity is ordinarily to be established deductively, by defining a universe of items and sampling systematically within this universe to establish the test.”

It would seem superfluous to point out how accurately this description fits the procedure which was followed when selecting the items and the degree of content validity which our instruments can accordingly lay claim to.

Finally, we come to remark E, which states that in view of validation of the instruments, the possibility to obtain measurements on an external criterion should be incorporated. This leads up to instrument $\delta$.

### 6.3.3 Instrument $\delta$

Instrument $\delta$ is attached — as it was in reality — to the instruments $\beta$ and $\gamma$ in appendix 7.$^2$ It is included because of requirement 2e (5.3).

As may be seen, three measurements for general job satisfaction are obtained by means of three questions:

- $\delta_1$: What do you think of your job as it is at present?
- $\delta_2$: In the past 6 months, have you ever considered looking for other work or finding a job somewhere else?
- $\delta_3$: In the past 2 years, have you ever done anything about trying to find another job (e.g. collect information, apply, reply to an advertisement)?

Indications of a general job satisfaction such as these are necessary for hypotheses $\delta_1$ and $\delta_2$.

In fact, there is a second way in which these measurements can be used, namely as the external criterion referred to in remark E, above.

An estimate of the validity of instrument $\gamma$ (and of instruments $\beta$ and $\alpha$ by inference, considering the degree of conformity between the three) may be arrived at by means of the data provided by questions $\delta_1$, $\delta_2$ and $\delta_3$, by comparing respondents who are high on general job satisfaction (high S) and those who are low on general job satisfaction (low S) as inferred from the answers to these three questions. To the degree that the measurements made with instrument $\gamma$ are valid, we expect that scores on the positive $\gamma$-items will be consistently higher and scores on the negative $\gamma$-tems

$^2$ Dutch version appendix 8.
will be consistently lower for the high-S group, than for the low-S group. The validity of the instrument is established to the extent that this is true.

The instruments $\beta$, $\gamma$ and $\delta$ were combined to form one mimeographed set of 7 pages; naturally, this was done in such a manner that each set consisted entirely either of A, B, C or D lists. (Instrument $\delta$ is identical in all cases).

### 6.3.4 Instrument $\alpha$

Instrument $\alpha$, which should measure the respondent’s perception of the need strength in *other* people, contains essentially the same items as do instruments $\beta$ and $\gamma$. (For English and Dutch texts, see appendices 1 and 4 respectively). However, in the instrument $\alpha$ one characteristic feature has to be added, namely a systematic distribution of these items over a number of occupational-hierarchical levels.

A *hierarchy of occupations for the Netherlands* has been published by van Heek *et al* (1958, pp. 25/26, 37/38), who chose for a ranking criterion the relative esteem in which the various professions are held by the general population.

From this ranking we have chosen four levels, each represented by four professions (the rank-number as well as the mean rank in van Heek’s list, which contains 57 professions, are indicated in brackets):

| a₁ Physician (2) (50.8) | c₁ Police constable (38) (21.3) |
| a₂ Judge (4) (50.4) | c₂ Machine tool operator (39) (21.0) |
| a₃ Graduate engineer (5) (48.7) | c₃ Commercial traveller (42) (19.7) |
| a₄ Notary public (6) (47.4) | c₄ Train conductor (44) (16.5) |
| b₁ (Army) officer (15/19) (43.4/35.5) | d₁ Stall-holder (54) (9.0) |
| b₂ Elementary school teacher (20) (35.4) | d₂ Farmhand (49) (13.1) |
| b₃ Journalist (21) (34.7) | d₃ Street-sweeper (56) (5.6) |
| b₄ Draftsman (22) (34.3) | d₄ Office-boy (57) (5.1) |

Our policy in picking the 16 professions was aimed, in the first place, at obtaining the smallest possible deviation in rank within the four levels, and the greatest possible deviation between them.

Furthermore, we selected one-word descriptions evoking an equivocal image. Our choice has been admittedly arbitrary: we combined “senior officer” and “field grade officer” in the one image “officer”, preferring this to the vaguer image of the “elementary technical schoolteacher” who has the same rank as the two officers combined. The “farmhand” was a blunder; we substituted “farmhand” for “unskilled labourer”, failing to notice till afterwards that “farmhand” was already represented in van Heek’s list, having a different rank as “unskilled labourer”.

To these 16 professions we have added two, chosen from the middle of the list, to be used in combination with the training-items:
6.3.4—6.3.5

On the basis of the scheme for the instruments $\beta$ and $\gamma$ we have drawn up a scheme for the instrument $\alpha$. The instrument $\alpha$ is given in appendix 9, represented as a combination of the four lists as was done in appendix 7; a fascimile of list $A$, in Dutch, is given in appendix 10. As a consequence, the reader can easily verify that the instrument $\alpha$ satisfies the requirements such as: no item occurs twice in the same list, each list contains only positive or only negative sentences, sequences of items and directions of answer scales balance each other out, and so on, in the same way as is the case for instruments $\beta$ and $\gamma$.

It is somewhat more difficult to see, and we shall not elaborate this point further, that when levels $a$ and $b$ are combined and set off against levels $c$ plus $d$, then the sets of scores derived from all four lists are completely equivalent in that both items and occupational levels are in balance, so that scores on levels $a+b$ may be compared with scores on levels $c+d$ without undue asymmetry resulting as a consequence of instrumental bias.²

6.3.5 Systematic design of the instruments

In the foregoing, much importance has been attached to a strictly systematical design of the three instruments $\alpha$, $\beta$ and $\gamma$. Apart from the fact that this is of the utmost importance for the avoidance of artificial bias, there is a further advantage to which we should like to draw the reader’s attention.

The scheme used for instruments $\beta$ and $\gamma$, as well as the added scheme used for instrument $\alpha$, have been worked out strictly in symbols without any reference to the actual meaning behind these symbols. This was done for a very good reason, based on requirement 2c (5.3); see also ‘ad 2c’ (6.1).

Our wish to compare the relative strength of need categories in a valid way called for these need categories to be represented by a random sample of all items that could possibly be written to represent them. We have seen the extent to which we have been able to meet this requirement (6.2); though it may be maintained that the sampling of items was done randomly (namely on the basis of a linguistic and therefore independent criterion), the sample turned out to be very small indeed.

In view of these small samples extra care had to be given to the distribution of these few items over the instruments. Given these small samples, this distribution must not be random, but must be systematic in the sense that the positions which the items occupy must be chosen in a systematic manner; to this end systematic schemes were drawn up in which the items were represented by symbols (as in appendices 7 and 9). Subsequently, the four items representing each category were randomly numbered

² The reader who wishes to verify this point may do so by writing out, for each need category, the textnumber and the number of the occupational level which occurs on the positive and on the negative side.
1 through 4, which assigned them to their proper symbol; in this manner a systematic positioning of the categories and the items within the categories was combined with a random assignment of the items within these positions.

The importance of avoiding that the assignment of a particular item to a particular position in the scheme would be influenced by its contents will at once be obvious, particularly with regard to instrument \( \alpha \). In this case, the items were also assigned to the 16 professions on a strictly blind, random basis; if this had been done otherwise, then any result obtained with instrument \( \alpha \) would be open to a charge of having been concocted. It is therefore important to stress here that each of the schemes for the instruments \( \alpha, \beta \) and \( \gamma \) (appendices 7 and 9) and the lists of items (appendices 1, 2 and 3) were constructed independently.

### 6.4 THE SCORING

The general set-up of the instruments to be used in the study having been worked out, there remains one aspect which is common to all instruments (except instrument \( \delta \)) and which therefore can be treated here by way of rounding off the discussion.

The answers which respondents give to the items in the questionnaires must be quantified. There are three ways of doing this; overall-ranking, ranking in pairs or triads, and scoring.

Ranking was considered as an advantageous possibility in the present case where we have two instruments (\( \beta \) and \( \gamma \)), each of which contains two parts with only a very limited number of items, namely 7, with a still smaller number of items in each occupational level in instrument \( \alpha \). It would seem likely that respondents would find it easier to rank seven items than to assign an absolute value to each of them. One of the pilot studies which preceded the actual investigation was designed expressly to investigate the extent to which this was true. Two sets of otherwise identical instruments \( \beta \) and \( \gamma \) were constructed; the lay-out of one set was identical to the one finally used, while the other set invited the respondent to assign a number from 1 to 7 to each item. A small sample of 15 respondents was asked to fill out that instrument which they liked best, thus indicating a preference for ranking or for scoring.

The result was that 10 subjects preferred scoring, and 5 ranking. Apparently, from the standpoint of respondents' preferences (and hence, presumably, with regard to reliability) there seems to be no advantage in ranking. In addition to this there are two serious disadvantages in ranking in the present case. They are closely related.

The result of ranking (as against scoring) is, of course, that the sum of the ranks given to seven items is always the same number, in this case \( \frac{7}{2} (7 + 1) = 28 \). Referring to fig. 5.3, this would mean that the surfaces "under" the curve would always be the same for the positive and the negative side of the graphs for both \( \beta \) and \( \gamma \). This would mean in the case of instrument \( \gamma \), that no difference would ever show between the total
amount of satisfaction as against the *total* amount of dissatisfaction with the work situation as a whole. And this would be a substantial loss, as the results of this study will show.

The example just cited (total amount of satisfaction compared to total amount of dissatisfaction) touches upon the second reason why ranking is less advantageous in the present case.

In section 6.3.3, we have explained how an indication of the validity of the instrument may be derived from a comparison of the scores on the positive $\gamma$-items with the scores on the negative $\gamma$-items for subjects with high as against subjects with low general satisfaction. It is clear that this method of establishing the validity of the instrument fails if we make use of ranking: in that case the scores on the positive items could never differ from the scores on the negative items since these sets of scores add up to an identical total: 28.

What has been said about ranking is, of course, true both for ranking of 7 items as for ranking in diads or triads. To this must be added as a disadvantage the considerable lengthening of the questionnaire and the repetitive nature of the task required of the respondents as a consequence of the frequent recurrence of the same items. Even so, we have also used a paired comparison format (triads) in one of our pilot studies; on top of the resistance of the subjects against the lengthiness of the task (and possibly as a consequence of it!) came the impression of a low reliability of the results.

The great advantage of the methods of diad or triad ranking is, of course, that these methods make it possible to arrive at true interval scales. Now in the present case the importance of this advantage is considerably lessened because we are not interested in absolute scores, but only in comparisons of scores, obtained, for the most part, on identical items. Only in connection with the hypotheses $\beta_3$, $\delta_1$ and $\delta_2$ (where scores on need categories are compared with each other) and in connection with the factor analysis, are we at a disadvantage when no true scores can be assigned.

The foregoing considerations and the results from the pilot studies led to the choice of direct scoring as the method to be used for the quantification of answers.

Added to these reflections comes the fact that the questionnaires with which we are concerned here, were in most cases completed in combination with a questionnaire which was part of another study (see section 7.1.1) and in which absolute scoring was used. This was a strong co-argument for giving preference to scale scoring, and for accepting a few drawbacks.
CHAPTER 7

The samples

The median income level of a hundred selected families in an urban industrial universe correlates .76 with population density — not .78 or .61 but .76, and that’s a fact.

W. H. White: The organization man

7.1 ON-THE-JOB SURVEY

7.1.1 Sampling procedure

As was mentioned at the end of the previous chapter, the composition of a large part of the sample which was used in the present study was determined by the possibility of combining the data-gathering procedure with that of another study.

In this other project — a nation-wide middle-management attitude survey involving the administration of a 110-item questionnaire — 15 companies and comparable organizations cooperated. In each organization a representative sample of the middle-management and professional personnel was invited to participate.

A special advantage in combining the field work of the two investigations was that personal data which were obtained by means of the principal questionnaire could also be used for the present study. Among these data was a code indicating the hierarchical level of the respondent in the company.

From the report on the attitude survey (van der Graaf & Huizinga, 1969, p. 16), we translate the descriptions of the three hierarchical levels which were distinguished:

*Level 1.* University graduates (except those who graduated quite recently) and graduates from technical colleges (“H.T.S.”) as well as those with higher administrative and accountancy diploma’s (“S.P.D.”) whose career has kept abreast of a more advanced age: heads of the more important departments, such as a head of a large design-department, chief of an R & D-department, comptroller, assistant to the director, secretary of the board of directors.

*Level 2.* Technical colleges (“H.T.S.”) and recent University graduates; secondary schools (“H.A.V.O.”) and advanced technical schools (“U.T.S.”):
7.1.1—7.1.2

design engineers, time-and-motion analysts, laboratory-assistants, bookkeeper, senior clerk, district sales-superintendent.


In five of the organizations involved in the attitude survey study, permission was asked from management and labour representatives to combine both investigations.

7.1.2 The data-gathering procedure

The attitude survey questionnaire was administered to groups ranging from 6 to 50 individuals on the organization’s premises and in company time, and involved checking answers in a booklet, mostly on a six-point rating scale; after an introductory talk and instructions it took respondents from 30 minutes to one hour to complete the task. The instruments for the present study were administered in this situation.

No reference was made to the present study until a few respondents had almost completed the main questionnaire; at that moment the investigator interrupted the work to explain that in a few companies permission had been granted to avail of the opportunity to combine two investigations. Particular stress was laid on the fact that both investigations were in no way related; it was explained that it was merely a matter of "hitting two nails with one hammer", that the investigator wished to make good use of a situation which was relatively difficult to arrange. Since the respondents had had the opportunity to become accustomed to the kind of task involved, filling out a second questionnaire would be relatively easy and would not take much extra time. As it turned out, the similarity between the two questionnaires obviated much additional instruction.

From the reactions to this interruption it was clear that the request made was fully appreciated as a reasonable and efficient procedure; also the further statement by the investigator that the nature of the second investigation could not be disclosed as this might influence the answers, was accepted.

After requesting respondents to finish their first task before starting on the second, the investigator proceeded to distribute the instruments \( \alpha \), and \( \beta, \gamma \) and \( \delta \).

In relation to this last point, the following elucidation is in order.

The \( \beta, \gamma \) and \( \delta \) lists had been arranged beforehand in the sequence A-B-C-D-A etc., with \( \alpha \)-lists interspersed (in the same order) to the ratio of 1:3. A random distribution of the lists was then ensured by distributing them strictly in the order in which participants were seated. With each following company the sequence was picked up where it had been left off with the previous one.

A few questionnaires had to be discarded because of omissions: although respondents had been explicitly asked to leave no item unanswered, this inevitably happened now and then; no questionnaires were used which were not complete.
7.1.3 The on-the-job sample

The sub-sample thus obtained is given in table 7.1.3.1.

Table 7.1.3.1

On-the-job sample according to source, for instruments $a$ and $\beta$, $\gamma$, $\delta$, per list, numerical

<table>
<thead>
<tr>
<th>Source</th>
<th>List</th>
<th>$a$</th>
<th>$\beta$, $\gamma$, $\delta$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>metal</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>textile</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>chemical</td>
<td>9</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>sales</td>
<td>10</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>municipal chancellery</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>29</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>List</th>
<th>$a$</th>
<th>$\beta$, $\gamma$, $\delta$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>metal</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>textile</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>chemical</td>
<td>9</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>sales</td>
<td>10</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>municipal chancellery</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>29</td>
<td>28</td>
</tr>
</tbody>
</table>

1 The break-up according to “list” in this table and the following is of interest only to those readers who have studied the text in small type in Chapter 6.
2 These subjects were drawn from the sales departments of three companies; field as well as office are included.

In tables 7.1.3.2, 7.1.3.3 and 7.1.3.4, the distributions of the sample are given for the parameters: job category, age and education.

Table 7.1.3.2

On-the-job sample according to job category and occupational level, for instruments $a$ and $\beta$, $\gamma$, $\delta$, whole percentages

<table>
<thead>
<tr>
<th>Category</th>
<th>Occupational level</th>
<th>$a$</th>
<th>$\beta$, $\gamma$, $\delta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>line</td>
<td>27</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>staff + services</td>
<td>7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>design</td>
<td>6</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>13</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>technical, field</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>administrative</td>
<td>7</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>financial</td>
<td>13</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>commercial, office</td>
<td>20</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>commercial, field</td>
<td>13</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>personnel</td>
<td>13</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Occupational level</th>
<th>$a$</th>
<th>$\beta$, $\gamma$, $\delta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>line</td>
<td>27</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>staff + services</td>
<td>7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>design</td>
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</tr>
<tr>
<td>R &amp; D</td>
<td>13</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>technical, field</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>administrative</td>
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<td>6</td>
<td>15</td>
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<td>financial</td>
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<tr>
<td>commercial, office</td>
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</tr>
<tr>
<td>personnel</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

n = 15 31 71 117 33 89 243 365
### Table 7.1.3.3

*On-the-job sample according to age and occupational level, for instruments α and β, γ, δ, whole percentages*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Age</th>
<th>Occupational level</th>
<th>α 1</th>
<th>α 2</th>
<th>α 3</th>
<th>α Total</th>
<th>β, γ, δ 1</th>
<th>β, γ, δ 2</th>
<th>β, γ, δ 3</th>
<th>β, γ, δ Total</th>
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<td>14</td>
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<td>14</td>
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<td>9</td>
</tr>
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<td>100</td>
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<td>100</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td></td>
<td></td>
<td>15</td>
<td>31</td>
<td>71</td>
<td>117</td>
<td>33</td>
<td>89</td>
<td>243</td>
<td>365</td>
</tr>
<tr>
<td>Mean age</td>
<td></td>
<td></td>
<td>42.3</td>
<td>42.2</td>
<td>38.6</td>
<td>39.4</td>
<td>43.2</td>
<td>43.5</td>
<td>41.0</td>
<td>41.7</td>
</tr>
</tbody>
</table>

### Table 7.1.3.4

*On-the-job sample according to educational level and occupational level, for instruments α and β, γ, δ, whole percentages*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Educational level</th>
<th>Level</th>
<th>α 1</th>
<th>α 2</th>
<th>α 3</th>
<th>α Total</th>
<th>β, γ, δ 1</th>
<th>β, γ, δ 2</th>
<th>β, γ, δ 3</th>
<th>β, γ, δ Total</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td></td>
<td>3</td>
<td>24</td>
<td>18</td>
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<td>4</td>
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<td>11</td>
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</tr>
<tr>
<td></td>
<td>post-primary school</td>
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<td>6</td>
<td>14</td>
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<td>3</td>
<td>7</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(“V.L.O.”)</td>
<td></td>
<td>6</td>
<td>27</td>
<td>18</td>
<td></td>
<td>7</td>
<td>16</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>elementary technical school</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td>1</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(“L.T.S.”)</td>
<td></td>
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<td>56</td>
<td>23</td>
<td>29</td>
<td>24</td>
<td>27</td>
<td>38</td>
<td>34</td>
</tr>
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<td>13</td>
<td>8</td>
<td>13</td>
<td>18</td>
<td>24</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(“U.T.S.”)</td>
<td></td>
<td>13</td>
<td>13</td>
<td>1</td>
<td>6</td>
<td>24</td>
<td>26</td>
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<tr>
<td></td>
<td>advanced primary school</td>
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<td>27</td>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(“U.L.O./3 j. H.B.S.”)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>secondary school</td>
<td></td>
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<td>8</td>
<td>13</td>
<td>18</td>
<td>24</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(“H.A.V.O., V.H.M.O.”)</td>
<td></td>
<td>13</td>
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<td>1</td>
<td>6</td>
<td>24</td>
<td>26</td>
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<td>11</td>
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<td>31</td>
<td>4</td>
<td>4</td>
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</tr>
<tr>
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<td>(“H.T.S.”)</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
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<td>31</td>
<td>71</td>
<td>117</td>
<td>33</td>
<td>89</td>
<td>243</td>
<td>365</td>
</tr>
<tr>
<td>Mean age</td>
<td></td>
<td></td>
<td>42.3</td>
<td>42.2</td>
<td>38.6</td>
<td>39.4</td>
<td>43.2</td>
<td>43.5</td>
<td>41.0</td>
<td>41.7</td>
</tr>
</tbody>
</table>
7.2 MAIL SURVEY

7.2.1 Sampling procedure

For purposes of the main study, the on-the-job samples were numerically representative of the organizational hierarchies concerned. This had one obvious disadvantage for the present study: the subsamples for the levels 1, 2 and 3 thus obtained were unequal, as table 7.1.3.3 shows; level 1 in particular was considered to be insufficiently represented. It was therefore decided to enlarge the sample by adding another subsample of a high occupational level.

Since it was obviously impractical to contact more companies in order to obtain a substantial subsample of respondents of this sort, it was decided to make use of a mail survey.

From the 1967 issue of a "Register of Engineers" (KIVI, 1967) names of those graduated between 1930 and 1950 and between 1960 and 1966 were selected. In order to make the mail sample — apart from hierarchical level — as equal as possible to the on-the-job sample, we only included individuals who were employed by companies of approximately the same size as the ones which had been used in the on-the-job survey.

Comparison with the three levels of the on-the-job sample (7.1.3.1) will show that the sample thus arrived at may be expected to be somewhat higher, if only in part, than level 1. We shall designate the mail survey sample henceforth by "level 0".

Only the $\beta$, $\gamma$ and $\delta$ instruments were sent, lists A, B, C and D in equal proportions; the letter which accompanied the questionnaires contained, apart from a general request for cooperation, three features of which the last two were designed to offset a possible negative influence of the first:

1. It was explained that no information could be given about the nature of the investigation, since this would influence results.
2. The addressees were given the assurance that they would receive full information on the project within six months, together with the results.
3. Mention was made of the personal nature of the material of the questionnaires, and it was explained that for this reason the stamped addressed envelope had been addressed to a notary public who would forward the lists without the envelopes.

After three weeks a brief reminder was sent out to all addressees.

Two clearly distinguished age-groups were chosen in view of a possible analysis of the influence of age on the variables under consideration. (As has been mentioned, of the on-the-job samples a number of personal parameters were known; among these also age). An appropriate question was added at the end of instrument $\delta$. Influence of the selection made is evident from the resulting age distribution. (Table 7.2.3.2).

We wish to express our gratitude to Mr. A. van Engen for his kind cooperation in this matter.
7.2.2 The mail sample

Of the 313 questionnaires sent out, 22 were returned undelivered, so that 291 should have reached their destination. The return was 256 or 87%. This exceptionally high return — as mail surveys go — rather limits any possible influence of non-return bias, usually a considerable problem with this kind of procedure.

Eleven questionnaires were discarded because they were incomplete or otherwise not fit to be used.

With regard to hierarchical levels, as derived from the on-the-job survey and from the mail survey, the total sample for instruments $\beta$, $\gamma$, and $\delta$ is given in table 7.2.2.1.

<table>
<thead>
<tr>
<th>Level</th>
<th>List</th>
<th>$\beta$, $\gamma$, $\delta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>mail survey</td>
<td>66 59 60 60 245</td>
</tr>
<tr>
<td>1</td>
<td>on-the-job survey</td>
<td>8 9 9 7 33</td>
</tr>
<tr>
<td>2</td>
<td>24 23 20 22 89</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>61 60 61 61 243</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>159 151 150 150 610</td>
<td></td>
</tr>
</tbody>
</table>

For the mail sample, no breakdown as to job category is known; this would hardly have been feasible in view of the hierarchical level of the individuals in this sample. Due to the source used (a name list of graduates from the University of Technology), all individuals had the same educational level.

The age breakdown is given in table 7.2.2.2.
TABLE 7.2.2.2

Mail sample according to age, for instruments $\beta$, $\gamma$, $\delta$, whole percentages.

<table>
<thead>
<tr>
<th>Instruments $\beta$, $\gamma$, $\delta$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>26-30</td>
<td>15</td>
</tr>
<tr>
<td>31-35</td>
<td>26</td>
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<tr>
<td>36-40</td>
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<td>41-45</td>
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<td>46-50</td>
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<td>51-55</td>
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<td>56-60</td>
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<td>245</td>
</tr>
<tr>
<td>Mean age</td>
<td>41.8</td>
</tr>
</tbody>
</table>

7.3 ROTARY INTERNATIONAL

Since we had not expected the high return on the mail survey which we in fact obtained, the sample was used only for the instruments $\beta$, $\gamma$ and $\delta$, because we considered their importance for the present study greater than that of instrument $\alpha$. Furthermore, the hypotheses $\alpha$ did not call for samples of varying occupational levels, and so there seemed to be no direct necessity to use this "precious" sample for instrument $\alpha$.

On the other hand, the on-the-job sample for instrument $\alpha$ did contain different hierarchical levels, and therefore it was decided to try and replace the sample of only 15 individuals of level 1 which had been obtained (table 7.3, overleaf), by a different and larger sample of a comparable occupational level.5

A sample of 30 individuals filled out $\alpha$-instruments during a lunch meeting of a local chapter of Rotary International.6

The samples for instruments $\alpha$ thus obtained are given in table 7.3.

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5 Actually, the 15 questionnaires filled out by functionaries at level 1 were discarded altogether from the study.
6 We wish to express our gratitude to Mr. C. Hogenbirk for his kind invitation.
7.4 DELFT UNIVERSITY OF TECHNOLOGY

If the Maslow categories are really basic — and, after all, this is one of the fundamental assumptions which this study investigates — then the nature of the factors which emerge from the factor analysis should be independent of the kind of subjects studied. Therefore it would not only be unnecessary to administer the instrument designed for the factor analysis in an industrial situation, but it would even be more interesting not to do so.

On the other hand, the contents of the questionnaire is such that most of the items have real meaning only for individuals who are, or at least have been, in an actual employment situation. Apart from that, an organization has the advantage of representing a collective unit which makes for easy accessibility to large numbers of potential respondents.

In the present case it was decided to make use of the organization of which the author himself is a member. Accordingly, permission was asked from the Curators of Delft University of Technology to send out 400 questionnaires to its personnel.

For the sample to which the composite instrument designed for factor analysis (6.3.2) was sent, we used the address-plates of 400 employees in a few randomly chosen containers in the mailroom.

It was decided to leave out the category of professors and lecturers as they were few in number, as their address-plates were kept separately, and as they would have included a few acquaintances of the author; otherwise, all other categories of wage-earners and salaried personnel were included in the sample.

This time, no use was made of the services of a notary public, but enclosed envelopes were addressed directly to the investigator. This was done because the sample was considered large enough, and no bias was expected from non-response to the results of the factor analysis. However, as in the case of the mail sample, the addresses were
given the assurance that the nature of the investigation and its results would be disclosed later.7

Partly stimulated by a reminder which was sent out two weeks after the questionnaires had been mailed, a total of 262 completed questionnaires was returned, i.e. 68% of the number sent out.

7.5 DISCUSSION

The reader will have noticed that all samples were drawn from lower-, middle- and upper-management levels (except the sample for the factor analysis), so that no separate samples from blue-collar or lower clerical ranks were included.

The reason for this is an opportunistic one. We have explained (7.1.1) that the data-gathering for the present study was combined with that of another study which focused on middle-management. Since this latter study was, at the time, the author's first responsibility, it was that study which determined the samples for the investigation which concerns us at present, rather than the other way around.

When the data of the present study were analysed, it was found that the range of samples used yielded statistically meaningful results with respect to the hypotheses, and negotiations with a company which had been approached with a request for a survey to be held among the blue-collar staff were abandoned so as not to retard the present publication unduly.

As the results will show (8.6.2), this does not mean that it would be superfluous to expand the present study to include skilled, semi-skilled and unskilled samples.

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7 This promise was kept by means of an article in the University's house magazine. See Huizinga (1968). A reprint of the same article was sent to the mail sample.
CHAPTER 8

The results

After all, neither under the laws of logic nor under the laws of any other realm must one become permanently wed to a hypothesis simply because one has tentatively embraced it.

R.K. Merton: Priorities in scientific discovery

8.1 THE GRAPHICAL REPRESENTATION OF THE DATA

In order to keep the discussion in this chapter as lucid as possible, we wield Ockham’s Razor\(^1\) rather rigorously. Since the advent of the computer, there is no limit to the amount of information to be gleaned from the answers given by a mere 600 individuals to a comparatively small questionnaire containing some 30-odd items.

In the following we discuss — with a few exceptions of particular interest — only those data which are pertinent to the hypotheses which resulted from the argumentation in Chapter 4 and which were laid down in Chapter 5; before we set out to do so, a short explanation is in order with regard to the manner in which we make use of a uniform graphical representation to illustrate our data.

In fig. 5.3 we represented the hypotheses \(\alpha\), \(\beta\) and \(\gamma\) in the form of graphs; in the present chapter we represent the actual results as far as possible in a corresponding manner. It will be found to facilitate the discussion and to make the various results easier to grasp and to remember.

In each graph, the vertical axis represents, as it does in fig. 5.3, the Maslow hierarchy with the self-actualization need category at the top and the category of the physiological needs at the bottom. To the left and to the right of this axis, mean scores have been drawn in, in accordance with the 5-point scale represented at the top of each graph; for easier reading, the mean scores for the seven need categories have been connected.

The reader may object on statistical grounds to the computation of means of scores obtained on an ordinal scale. Therefore we wish to stress that the graphs should be considered merely as illustrations to elucidate the discussion; we decided to indicate means instead of medians simply because graphs based on means seemed to be more

\(^1\) “Essentia non sunt multiplicanda praeter necessitatem”.
satisfactory as illustrative material; for one thing, we found that there was greater conformity between differences thus represented and the corresponding levels of significance.\(^2\)

The test used to determine these levels of significance was, of course, chosen because of its applicability to data derived on an ordinal scale.\(^3\)

There will be no reference to the *shape* of a graph as such. With one exception, the discussion will always concern differences between comparable graphs and between the positive and the negative side of one graph.

This one exception is, of course, hypothesis \(\beta_3\) concerning the "dominating" need category. As we have discussed in section 6.1 (*Ad* 2c), inter-category comparisons are impossible, strictly speaking, because in the first place, different need categories are represented by different items, the scores on which cannot be compared meaningfully; we have explained, however, how we have tried to overcome this basic difficulty by "random sampling" of items. (6.3.5).

In the second place, we agree with Mulder (1963a, p. 210), among others, that it is not possible to draw conclusions in the form of "category X is stronger than category Y" on the basis of data obtained by means of interviews or questionnaires, because such variables as "social acceptability" are bound to influence the respondents either consciously or subconsciously (or both). In concrete terms: the actual shape of the graphs in fig. 8.3.1 should not entice the reader to conclude that the self-actualization needs are the strongest needs of all. Maybe they are, and we shall be in a position to judge this later on (8.6.2); however, the conclusion cannot be drawn on the basis of the shape of this graph; for the time being, the random sampling of items which has been attempted in this study is no guarantee that the influence of "social acceptability" may be neglected.

As it will turn out, these objections against inter-category comparison of scores, though certainly valid, recede somewhat in the background in respect to hypothesis 33, because the data for that hypothesis may be considered to be sufficiently evident even when the relatively lesser merits of the instrument for inter-category comparisons are taken into account. (See 8.3.3).

8.2 HYPOTHESES \(\alpha_1\) AND \(\alpha_2\): THE "FOLKLORE"

8.2.1 *The data*

The hypotheses \(\alpha\) have been included in the study in order to establish normal contention regarding possible differences in the basic need pattern between representatives of various occupational-hierarchical levels. The hypotheses were formulated as follows (5.2.1):

"*Hypothesis \(\alpha_1\)*. Normal contention is that factors in the work situation which

\(^2\) Apart from this, we feel that, at least in principle, medians are hardly more satisfactory than means as a representation of the central tendency of scores on a non-linear scale, considering the fact that in the computation of the median, use is made of linear interpolation.

\(^3\) The Mann-Whitney U test (Wilcoxon test) has been applied throughout; cf Spitz (1965), pp. 363-370 and Siegel (1956), pp. 116-127. The test is applied one-sided unless otherwise stated.
correspond to the “higher” needs are more important to individuals of higher rather than of lower occupational levels.”

“Hypothesis x2. Normal contention is that factors in the work situation

\[ P < .001 \]

\[ V < .001 \]

\[ \frac{V}{2} < \frac{V}{5} \]

\[ n.s. \]

\[ (P = .04) \]

\[ \alpha \]

\[ -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \]

Fig. 8.2.1.1

The hypotheses α: Rotary, level 2 and level 3 combined (n = 132)
which correspond to the "lower" needs are more important to individuals of lower rather than of higher occupational levels."

The results obtained from the total sample to which instrument \( \alpha \) was administered (Rotarians plus levels 2 and 3) are given in fig. 8.2.1.1, opposite.

The graph represents the opinion of this sample regarding the occupations \( a + b \) and regarding the occupations \( c + d \). The levels of significance of the differences between each pair of score distributions have been written in, on the positive as well as on the negative side, for each need category, as well as for the three higher categories together and likewise for the three lower categories together. Levels of significance higher than \( p = .05 \) are indicated by the symbol "n.s." (not significant), as will be the case in all figures which follow.

The graph illustrates, and the levels of significance show, that hypothesis \( \alpha_1 \) is supported by the data, whereas hypothesis \( \alpha_2 \) is not supported. In other words: Normal contention is that the distinction between various occupational-hierarchical levels is found for the higher needs only. For individuals in the higher occupations, the higher needs are supposedly stronger than they are for individuals in the lower occupations. The lower needs, however, are seen to a much greater extent as being equal in strength for everybody.

The graphs which follow in fig. 8.2.1.2 show how the picture remains essentially the same when we split the total sample up according to the hierarchical level of the respondents themselves; though there may be a trend for "higher" subjects to perceive differences for the lower needs also, (which would be in accordance with hypothesis \( \alpha_2 \)), there is no basic difference between the three sets of data.

8.2.2 Discussion

Apart from the support for hypothesis \( \alpha_1 \) and non-support for hypothesis \( \alpha_2 \), the following points must be noted for the total sample and for the three sub-samples:

1. There is no indication whatsoever of any asymmetry in the data, that is to say no phenomenon is expected such as, e.g. higher needs being stronger primarily in the positive sense and lower needs being stronger primarily in the negative sense.

2. Perceived differences are larger for the negative side of the graph than for the positive side. The author is at a loss to explain this; an artefact is out of the question because of the careful balance of the instrument. We shall encounter comparable phenomena further on. (8.4.2, 8.6.2, 8.7.1).

3. Initially, we included the hypotheses \( \alpha \) because we had found some indications to support them and because the "folklore" which was expected to
Fig. 8.2.1.2
The hypotheses $\alpha$: Rotary, level 2 and level 3 separately
exist might be considered to have some influence on the implementation of the management philosophies of authors such as Argyris, McGregor, etc. (4.4). From our data would follow that, in general, the lower occupational levels are expected to have lesser need for responsibility, self-actualization, etc. than the higher levels. This would mean that general feelings about the matter disagree with these management theories, which in turn would mean that some “education” in this respect would be necessary, especially for the higher hierarchical levels, if these theories are to receive more general recognition.

Having considered the “folklore”, let us now take a look at the actual facts.4

8.3 Hypotheses $\beta_1$, $\beta_2$ and $\beta_3$: The Actual Need Strengths

8.3.1 The data

The hypotheses $\beta_1$ and $\beta_2$ are concerned with the strength of the basic need categories as they are perceived by occupants of various occupational levels themselves. The hypotheses have been stated as follows (5.2.2):

"Hypothesis $\beta_1$. Factors in a (hypothetical) work situation which correspond to the “higher” needs are more important to individuals of higher rather than of lower occupational levels."

"Hypothesis $\beta_2$. Factors in a (hypothetical) work situation which correspond to the “lower” needs are more important to individuals of lower rather than of higher occupational levels."

Fig. 8.3.1.1 represents the relevant data. In this graph the mean scores for all four samples 0, 1, 2 and 3 have been drawn in; the levels of significance indicated refer to the differences between occupational levels 0 and 3 only.

We see at a glance that hypothesis $\beta_3$ is very strongly supported. The level of significance of the differences between levels 0 and 3, together with the reasona-

4 Bearing in mind what Merton has to say about possible relations between the two: “Consider only the relations between the socially plausible, in which appearances persuade though they may deceive, and the true, in which belief is confirmed by appropriate observation. It may be enough to suggest that the independence between the two confronts the sociologist with some uncomfortable alternatives. Should his systematic inquiry only confirm what has been widely assumed — this being the class of plausible truths — he will of course be charged with “laboring the obvious”. He becomes tagged as a bore, telling only what everybody knows. Should investigation find that widely held social beliefs are untrue — the class of plausible untruths — he is a heretic, questioning value-laden verities”. (Merton, 1965, p. 175; also Broom, Cottrel & Merton, 1959, pp. XV/XVI, note 5).
The hypotheses \( \beta \): level 0 (\( n = 245 \)), level 1 (\( n = 33 \)), level 2 (\( n = 89 \)) and level 3 (\( n = 243 \)).

Fig. 8.3.1.1

Bly clear recurrence of the sequence 0-1-2-3, leaves no room for doubt. The lower the occupational level under consideration, the stronger the lower needs become.
Sharply contrasted to this are the results with regard to hypothesis $\beta_1$. From fig. 8.3.1.1 it would seem that not only is hypothesis $\beta_1$ not supported, but it may even be concluded that it should actually have been reversed.

That this is indeed the case is shown by the levels of significance indicated for the three higher categories, which have been put between brackets to indicate that they have not been computed under the assumption of hypothesis $\beta_1$ but (since the differences all occur in the "wrong" direction) under the assumption of the opposite hypothesis. Although the significance levels are much higher than in the case of hypothesis $\beta_2$, 5 out of 6 still are below 5%.

However, some doubt is justified because these (hypothetical) levels of significance are so much higher than they are for hypothesis $\beta_2$, and furthermore because the sequence 0-1-2-3 (which in general emerges so neatly for the lower need categories) becomes rather mixed up for the higher categories. The possibility remains, therefore, that in some cases (when all levels are compared mutually), hypothesis $\beta_1$ might still be found to hold — provided that the differences then found are statistically significant.

We designed table 8.3.1.2 in order to clarify this point. It reads as follows. For each need category, arrows indicate the directions of the shift of the mean scores between all pairs of occupational levels as these are actually found to be. At each side of the table the direction of the expected shift under the assumption of each hypothesis, $\beta_1$ and $\beta_2$, is also indicated by an arrow. We placed the break between "higher" and "lower" needs tentatively between categories IIb and IIIa, rather arbitrarily and only on the grounds of a marked "jump" in the levels of significance which occurs there. (See fig. 8.3.1.1).

This is not very important, however, since the assumption that hypothesis $\beta_1$ should have been reversed simply means that the direction of all differences should be as hypothesis $\beta_2$ indicates, i.e. all arrows in the table should then point outwards and, for all practical purposes, the break between higher and lower needs then disappears in this respect.

Considering table 8.3.1.2, we see in the first place that the strong support for hypothesis $\beta_2$ is, of course, confirmed. It shows only three exceptions to the expected direction of the shifts, the level of significance of each of which is, however well, beyond $p = .05$. (Thick arrows in the bottom half of table 8.3.1.2).

For the higher needs there are 13 shifts (out of 36) which agree with hypothesis $\beta_1$. (Thick arrows in the top half of the table). Only one of these, however, is significant (at the 3% level).

Statistically speaking, there is not much point in computing levels of significance of occurrences which are contrary to the expected ones. Even so, we consider that the picture which emerges from table 8.3.1.2 supports the data from figure 8.3.1.1 to a sufficient degree to contradict hypothesis $\beta_1$, and that the data would have supported a reversed hypothesis had we made it.

The exceptions (thick arrows in table 8.3.1.2) concern mostly the levels 1 and 2, which is easily understood when it is realized that the number of subjects in these categories is very small.

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5 The position of this "jump" may be familiar to the reader; we have also come across it in all the data discussed in Chapter 3, as we have stressed at the end of section 3.4. See also 9.1.6.
<table>
<thead>
<tr>
<th></th>
<th>NEGATIVE</th>
<th></th>
<th>POSITIVE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 ← 2</td>
<td></td>
<td>0 ← 1</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>β2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 ← 1</td>
<td></td>
<td>0 ← 2</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td>n.s. ← n.s.</td>
<td></td>
<td>n.s. ← 0.027</td>
<td></td>
</tr>
<tr>
<td>β2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 ← 1</td>
<td></td>
<td>0 ← 3</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td></td>
<td></td>
<td>n.s. ← n.s.</td>
<td>0.03</td>
</tr>
<tr>
<td>β2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 ← 0</td>
<td></td>
<td>1 ← 2</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td>n.s. ← n.s.</td>
<td></td>
<td>n.s. ← 0.037</td>
<td></td>
</tr>
<tr>
<td>β2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ← 0</td>
<td></td>
<td>1 ← 3</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td></td>
<td></td>
<td>n.s. ← n.s.</td>
<td></td>
</tr>
<tr>
<td>β2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 ← 3</td>
<td></td>
<td>2 ← 3</td>
<td></td>
</tr>
<tr>
<td>β1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: n.s. indicates not significant.*
levels (33 and 89 respectively) is much lower than the 250-odd subjects in each of the other levels. Clearly the smaller samples result in a somewhat more erratic behaviour of the data.

8.3.2 Discussion

Taken together, the data may be interpreted as follows: for all categories, fundamental needs are stronger for individuals in lower occupational levels, and the lower the category under consideration, the more this is the case.6

This result is remarkable in the sense that it contrasts sharply with what we have called — with some justification as it now turns out — the “folklore”. There are two differences:

In the first place, the reader will remember that hypothesis \( \alpha_1 \) was supported, while hypothesis \( \alpha_2 \) was not, whereas now we find that hypothesis \( \beta_2 \) is supported, and hypothesis \( \beta_1 \) is not. In other words, a difference which is generally expected to occur mainly for the higher need categories (fig. 8.2.1.1), actually occurs mainly for the lower need categories.

And in the second place, the difference between higher and lower occupational levels is not even the same sort of difference, but a contrasting one: on the whole, basic needs are stronger for individuals in the lower occupational levels, rather than for individuals in the higher occupational levels, as the “folklore” would have it. Fig. 8.3.2., which combines figures 8.2.1.1 and 8.3.1.1, elucidates this controversy.

One interesting point emerges from all this. We first found that the “folklore” is at variance with the theories of McGregor, Drucker and Argyris; now we find this “folklore” to be at variance also with the actual data we have presented. Does this mean that our data are in accordance with the theories? Because of the double distinction between the results of the hypotheses \( \alpha \) and \( \beta \), this is only so to a limited extent. Our data are totally at variance with the “folklore” and are only partly in accordance with the views of the management theorists.

Although the claim of these authors, namely that the higher needs are at least as important for the lower as for the higher occupational levels, is fully corroborated, we also find that the important difference is found not really with respect to the higher needs but with respect to the lower needs.

6 The question might be asked whether these differences between the occupational levels could be due to another possibly systematic difference between the samples, namely age. As follows from tables 7.1.3.3 and 7.2.2.2, the mean ages for the samples 0, 1, 2 and 3 are 41.8, 43.2, 43.5 and 41.0 years respectively, so that this variable may be considered irrelevant. See also 8.4.1, where the relationship between age and need strength is analysed in detail.
Though the failure of hypothesis $\beta_1$ is of interest in connection with what we have just discussed, and rather weakens the grounds for stress on the higher needs in the modern management literature, its most serious consequence concerns the main subject of this study, namely (our interpretation of) Maslow's theory. In general, a reversal of a hypothesis would seem to be fatal to the theory from which it is derived. However, before jumping to conclusions, it may be wise to discuss hypothesis $\beta_2$, taking to heart Merton's words which we have placed at the head of this chapter.

8.3.3 Hypothesis $\beta_2$: the “dominating” need category

The reader will remember that hypothesis $\beta_2$ referred to the “dominating” need category.

For an explanation of certain data in the literature (Herzberg, 1959) we have found it useful, in the theoretical discussion (4.1, 4.2.1) to interpret Maslow's motivation theory in the sense that we assumed that the motivational life was always dominated by one particular need category.

The hypothesis reads as follows (5.2.3):
"Hypothesis $\beta_3$. In both cases referred to in hypotheses $\beta_1$ and $\beta_2$, appreciably more importance is attached to factors corresponding to one particular category in the need hierarchy than to all others."

There is no point in elaborating the data pertaining to this hypothesis. For one thing, it is immediately obvious from fig. 8.3.1.1 that no such thing as an appreciably stronger need category is manifest in the data, certainly not to the extent that would be needed to explain the "satisfier/dissatisfier phenomenon". If the reader insists that the highest categories are the stronger ones, then the answer must be that these categories are not the appropriate categories to make such an explanation valid: the point of conversion between "satisfiers" and "dissatisfiers" (which should coincide with the "dominating" need category) has never been found to occur higher in the hierarchy than between the categories II and III. (Table 4.4). In fact, this argument is identical to our argument which, by its failure to be corroborated by the available data, brought our discussion in Chapter 4 to a close; the reader may verify by means of table 4.4 that our results are in perfect accord with those of Centers (1948), Schaffer (1953) and Blai (1964).

This would then mean that the chance of support for our interpretation of Maslow's theory seems not only to be thwarted by the failure of hypothesis $\beta_1$, but that this interpretation is now found to be wanting also with respect to that aspect of it by which we had explained the "satisfier/dissatisfier phenomenon", namely the "dominating" need category. Is the failure of both hypotheses $\beta_1$ and $\beta_3$ not sufficient evidence to disprove the dynamic aspect of Maslow's theory — and thereby its basic characteristic?

Even on the basis of this seemingly double evidence such a conclusion is not warranted.

Fig. 8.3.1.1 conveys the impression that most needs are more or less equally strong for all occupational groups — but some slightly more so than others; we may speak of a certain "need pattern" or "need profile" which is typical for each occupational level. These "need patterns" change gradually from one occupational level to another; the lower in the occupational hierarchy we go, the stronger the basic needs seem to become and this is true especially for the lower needs. Notwithstanding the failure of both hypotheses $\beta_1$ and $\beta_3$, we still see the dynamic relationship between the basic needs (1.6.1) in action.

Initially, we expected to be able to identify different (groups of) individuals as having grown along the hierarchy to a different extent on the basis of their showing different "dominating" need categories; now that we fail to find evidence of a "dominating" need category, we realize that psychological growth does not necessarily show only in different appreciably stronger need categories, but that it may also show in differences in the relative strength of all the need categories considered together or, in other words, in differences in the shape of...
the need profiles. The need profiles we have obtained for the four samples are seen to change gradually in direct relation to the occupational level; the lower basic needs become relatively stronger, the lower the occupational level under consideration.

We now realize, when we consider fig. 5.3a, that the concept on which hypothesis $\beta_3$ was based (the "dominating" need), which now turns out to be incorrect, resulted in an incorrect conception of hypothesis $\beta_1$: as it now turns out, it is possible for both hypotheses to be incorrect whilst the data still support the basic phenomenon — the directly related shifts through both hierarchies — by which the theory was to be verified.

This is the solution to the dilemma with which we were confronted by the data in table 4.4.

It may be interesting to note that the amount of growth along the need hierarchy, if expressed in terms of a difference in need profile, may even be turned into an operational definition.

We grant at the outset that what we propose here may be considered as stretching things too far; however, this operationalization must be understood merely by way of an illustration, much the same as is the case with the graphs we present in this chapter.

Let us represent the need categories by a set of seven pairs of bars of homogenous mass, where the length of each bar is equal to the strength of each corresponding need category, and one bar of each pair represents the negative part of each graph and the other the positive part. Having no alternative, we presume the need categories, and therefore the bars, to be equidistant (as we do in the graphs). In this manner we turn, as it were, the need profile into a two dimensional physical body. 7

If we finally number the pairs of bars from 1 to 7, starting with the lowest pair (the one corresponding to need category V), then the centre of gravity of this hypothetical physical body is easily computed; for the different occupational levels, going from level 0 to level 3, we find the steadily diminishing values of 4.40, 4.36, 4.29 and 4.22; the centre of gravity of the need profile shifts steadily downward for lower occupational levels. 8

8.4 ADDITIONAL FINDINGS

The discussion in this section brings to the fore a few side-issues which seem to be interesting enough to include them in this monograph (although they have no direct bearing on our hypotheses) without "multiplying essences without necessity".

7 We would get something like the Jacob’s staff — the medieval equivalent of the sextant.
8 The centres of gravity so computed fall between need categories II and III, a point in the need hierarchy which keeps cropping up as a critical one for the occupational levels under discussion here: see our conclusion at the end of section 3.4, the p-values in fig. 8.3.1.1 and section 9.1.6.
8.4.1 Need strength versus age

In section 1.5.4 we have described the growth through the hierarchy of basic needs in the development of the individual. From our general description it follows that by the time the “normal” individual (2.2) has reached maturity, the esteem needs are well established, while “self-actualization . . . must often wait till middle-age or later”. It would seem, therefore, that most psychological growth through the deficiency needs is accomplished by the time biological maturity has been reached; in the case of our samples, which contain only one individual under 20 years of age (tables 7.1.3.3 and 7.2.2.2), this would mean that no great difference in relative need strength would be found in relation to age.

To verify this, three age-groups were chosen from the total sample which had completed the $\beta$-instrument (levels 0 + 1 + 2 + 3), namely those under 31 years (n = 90), those from 36 to 40 years (n = 92), and those older than 50 years (n = 146).

No significant differences in need strength were found between the age-groups for the need categories IIa through V (which is in agreement with the expectation formulated above); the only significant differences were those for the scores on need category I, but for that category the need strength seems to diminish gradually with age.9

From these findings it would appear that for most people all psychological growth (and not merely growth through the deficiency needs) is ended by the time the lowest age-bracket which occurs in our sample is reached. Psychological growth apparently takes place before that, and — as the data for our occupationally stratified samples show — leads to differential results. There seems to be very little growth on the level of the growth needs; in fact, more people seem to regress with age than to grow in this sense. This, we feel, is in good accord with Maslow’s finding that real self-actualization is so rarely encountered. (2.5).

A combination of our findings would fit a tentative model as suggested by fig. 8.4.1. We are immediately reminded of the equitable pay-curves as presented by Jaques (1964), and, on second thought, the association is, of course, quite a reasonable one.

As fig. 8.4.1 shows, the differential extent of growth up the need hierarchy (which has been found to correlate with varying positions in the occupational hierarchy) is presumably reached by way of different curves. If all the curves follow a pattern as depicted by the solid lines (and the broken line does not occur), then this would have

9 For the difference between the youngest and the oldest age-group, p = .002 both for I+ and I−. (Two-tailed test). If the shift of the centre of gravity of the (total) need profile (8.3.3, small type) suggests anything at all, it suggests a trend which corresponds to the biological life-curve and which does not point to a steady psychological growth: for the three age-groups, we find the values 4.31, 4.32 and 4.26.
the very interesting consequence that at an early age (that is before the actual positions in both hierarchies will have been reached!) a prediction could be attempted as to an individual's potential, if it should prove possible to construct a test of sufficient precision by which the extent of growth through the needs hierarchy could be determined individually. (Dotted line in fig. 8.4.1). Such a test might conceivably be constructed on the basis of our instrument P by which, as we have shown, it is possible to determine differences with respect to need profiles between samples of individuals.

We find Maslow (1954, pp. 117/118) thinking along similar lines, when he states: "If we think of gratification of the hierarchy of basic emotional needs as a straight-line continuum, we are furnished with a helpful (even though imperfect) tool for classifying types of personality. If most people have similar emotional needs, each person can be compared with any other in the degree to which these needs are satisfied. This is a holistic or organismic principle because it classifies whole persons on a single continuum rather than parts of aspects of persons on a multiplicity of unrelated continua."

All this takes for granted, of course, that the position in the occupational hierarchy is determined by the extent to which growth through the need hierarchy has been accomplished, and not the other way round; this, in turn, would mean that the ultimate extent to which an individual will grow up the need hierarchy would have to be considered to be an innate potential of the individual, a "fundamental datum of the
personality" (1.1.2) which establishes itself at an early age. At the moment, of course, conclusive evidence for this is lacking. The only tentative evidence we can think of is provided by Dove's experiments with diet-choosing chickens, which we have discussed in 2.5.1 (Dove, 1935); the "superior choosers" were apparently superior from the start, and hence the differences between the chickens in this respect can only have been innate.

In this connection, a paragraph from a recent paper by Hall & Nougain (1968, p. 14), which is concerned with Maslow's theory, is of particular interest: "It may be true, as the hierarchy theory would predict, that top executives have high needs for achievement, ambition, or concern with work because their lower order needs have become relatively satisfied. On the other hand, though, these qualities may have been present before the executives were promoted (either as intrinsic personality factors or in response to predominant values in the organizational culture). Thus, these higher level concerns may have been a cause, not an effect, of their high organizational status." (Emphasis added).

As a matter of fact, Hall & Nougain fail to find support, in their well thought-out study, for the Maslow hierarchy model operating in this sense or any other. They offer as one possible reason for this failure the fact that they carried out a longitudinal study which had a range of only 5 years, whilst the actual time perspective in which the hierarchy operates (time-lag between the emergence of the various basic needs) should be considered in relation to the total life-span; five years would simply be too short for any differences to emerge.\(^1\)

They asked Maslow's opinion on this, and they write: "[Maslow] suggests that in the fortunate life history the safety needs are salient and satisfied during childhood, the affiliation needs during adolescence, and the esteem needs during early adulthood. Only as a person nears his 50's, generally, will the self-actualization needs become strongly salient." (Op. cit., p. 32).

"In the fortunate life history". Surely, most ordinary people are not that fortunate and they do not have the capacities to push all the way through towards self-actualization. They can only reach a certain position and go no further. That would seem to be the (unfortunate) reality.

8.4.2 Differential results from positive and negative items

Before we turn to the hypotheses \(\gamma\), one minor point is in order. With reference to the data obtained by means of instrument \(\alpha\), as represented in fig. 8.2.1.1, we have drawn the reader's attention to the fact that the hypothesized phenomenon was stronger for the negative data (left-hand side of the graph) than for the positive data (8.2.2, point 2). No explanation was offered at the time; but as the same thing was true in all three subsamples, we considered it unlikely that it would be a chance happening.

When we now compare the data on the hypotheses \(\beta\), (fig. 8.3.1.1) we notice the same thing again, this time in values of the figures shown for the levels of significance of the various mean score differences.

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\(^1\) The authors do not give data on the age of their subjects, but state that they worked on "data from the first five years of the careers of a group of managers". (Op. cit., p. 12).
We still cannot offer an explanation, but we shall return to this point when we discuss the reliability of the instruments. (8.7.1).

In this connection we mention a paper by Herzberg (1954), in which a case is made for the greater specificity of negative survey comments as compared to positive comments. (To be precise: the comments were “triggered off” by items in the survey; some items gave rise to more negative than positive comments, and it was these negative comments which obtained the highest “specificity-score”). Herzberg offers as little explanation as we do, or rather, refers for an explanation to a paper by Reynolds & Shister (1949) from which he quotes: “The reasons given by workers for being satisfied with jobs are less precise and vivid than responses of dissatisfied workers. A dissatisfied worker is likely to have some localized grievance which he can definitely state, a satisfied worker has only a general pleasant feeling about the situation.” (Herzberg, 1954, p. 272).

Of course, this opinion does not help in our problem; it merely adds to the impression that there is something the matter with positive and negative statements or attitudes, or whatever the case may be.

8.4.3 The Porter et al studies

At this point we bring in a brief discussion of the generally well-known studies published by Porter and associates. The reader may have wondered why we have not done so earlier, since the Porter studies and the present one have some crucial aspects in common; the two hierarchies — the occupational hierarchy and Maslow’s need hierarchy — are common features of both.

Indeed, a number of remarks can and must be made concerning the Porter studies. Omitting, for the sake of brevity, a detailed description of the method used in these studies — for which we refer the reader to the original publications — we would enumerate the following objections:

1. Although Porter bases the categorization of his items on Maslow’s basic needs, we do not find both sets of categories to be in particularly good agreement. Porter introduces a category of “autonomy” needs, the items of which belong to both Maslow categories I and IIb, while his “self-Actualization” category contains a IIa item.

---


3 “IV Autonomy needs
   a. The authority connected with my management position (IIb);
   b. The opportunity for independent thought and action in my management position (I);
   c. The opportunity, in my management position, for participation in the setting of goals (I, IIb);
   d. The opportunity, in my management position, for participation in the determination of methods and procedures (I, IIb).

V Self-Actualization needs
   c. The feeling of worthwhile accomplishment in my management position (IIa).”
   (Porter, 1961, p. 3; italics in the original, indications of Maslow categories added).
2. No attempt was made to represent the categories used by a representative sample of items; this disadvantage is pointed out by Porter himself. (Porter, 1961, p. 5).
3. Results are based on response rates which in one case are even less than 33%. (Porter, 1962, p. 377).
4. The need hierarchy on which the study is built does not lead to prognoses of systematic results (as a study based on a theory should), and the first pilot study fails to show systematic results. (Porter, 1961). Even so an identical research design is employed in all further studies with the consequence that the data remain incidental and fail to show much of a systematic pattern.
5. The questionnaire format which is used introduces the possibility of answer contamination, since for each item answers are solicited on the following three questions: “How much is there?”, “How much should there be?” and “How important is this to me?”
6. Although the latter question is put to the respondent in direct connection with the other two, the answer is interpreted as an indication of the strength of the need, as against an indication, for instance, of the importance the respondent attaches to the discrepancy which he has just indicated.
7. The higher need categories I and II are excessively represented in the questionnaire: 10 items make up the 3 categories Self-Actualization, Autonomy and Esteem, while only 3 items represent the social and security needs. This throws doubt on comparisons in terms of the relative significance of score differences for the high versus the low categories (which was the only systematization of the results attempted).
8. Porter purports to measure satisfaction/dissatisfaction of a need by the subtraction of the scores on “How much is there” and “How much should there be”; however, the equalization of fulfilment/frustration with satisfaction/dissatisfaction is open to criticism; the strength of the relationship between the two depends on which need is being considered, as we have hypothesized in section 5.2.6 and as we shall show in section 8.6.1.
9. There are no indications of reliability or validity of the data.

By listing the above objections against the Porter et al studies, we do not wish to imply that their various results are valueless. However, we do think it is regrettable that an instrument of relatively little proven merit should have been used as part-basis for an undertaking such as a world-wide comparative study of managerial attitudes. (Haire, Ghiselli & Porter, 1966).

The results of the Porter et al studies — as far as they are concerned with occupational-hierarchical differences — may be classified in two sets. The first set shows relative satisfaction (or dissatisfaction) with the various needs (however, see our objection nr. 8); the second set shows the relative importance attached to these needs (however, see our objection 6).

If we compile these two sets of results from the appropriate studies, we find general trends such as rendered in table 8.4.3.1.
TABLE 8.4.3.1
Trends in the results of the Porter et al studies

"Satisfaction (dissatisfaction) with need"
(In our opinion (objection 8): relative fulfilment of need)
Difference between high and low managerial levels mainly for need categories:

<table>
<thead>
<tr>
<th>Study</th>
<th>Need Category</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porter (1961) table 2, p. 5 (n = 193, rr = 61%)</td>
<td>I, II, IV</td>
<td></td>
</tr>
<tr>
<td>Porter (1962) table 2, p. 379 (n = 1958, rr = 33%)</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Porter (1963b) table 2, p. 270 (n = 1802, rr = 33%)</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Heller &amp; Porter (1966) table 1, p. 4 (n = 80 + 82, rr = ?)</td>
<td>All categories</td>
<td></td>
</tr>
<tr>
<td>Haire, Ghiselli &amp; Porter (1966) fig. 20, p. 128 (n = 3641, rr = ?)</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Porter &amp; Mitchel (1967) table 3, p. 142 (n = 1297, rr = 85%)</td>
<td>All categories</td>
<td></td>
</tr>
</tbody>
</table>

"Importance of need"
(In our opinion (objection 6): importance of discrepancy between strength of need and its relative fulfilment)
Difference between high and low managerial levels mainly for need categories:

<table>
<thead>
<tr>
<th>Study</th>
<th>Need Category</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porter (1961) table 3, p. 7</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Porter (1963a) table 2, p. 144</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Porter (1963b) table 4, p. 272</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Haire, Ghiselli &amp; Porter (1966)</td>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

The second set of results in table 8.4.3.1 directly supports our objection 6 to the effect that Porter's third question does not assess the strength of needs, but rather the importance which respondents attach to the difference between need strength and need fulfilment which they have identified by answering the previous two questions. If this question had measured the strengths of the needs, then the differences between high and low managerial levels in this respect should — according to our data (fig. 8.3.1.1) — have been found for the lower needs; instead, the second half of table 8.4.3.1 shows that Porter's third question causes the greatest differences between managerial levels to be found for the higher needs. This, we feel, is so because the discrepancies in need fulfilment are greatest for the higher needs, as the first part of table 8.4.3.1 shows and which, in turn, we can confirm by our own data, as follows: when we substract γ-from β-scores (Porter's "'How much is there'" minus "'how much should there be'") and we compare the data so obtained for level 0 with those so obtained for level 3, then we also find the highest figures for the higher need, as follows from table 8.4.3.2:

TABLE 8.4.3.2
The difference between (γ-β)-scores for level 3 (n = 243) minus those for level 0 (n = 245)

<table>
<thead>
<tr>
<th>Need Category</th>
<th>Negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>.73</td>
<td>.35</td>
</tr>
<tr>
<td>IIa</td>
<td>.70</td>
<td>.27</td>
</tr>
<tr>
<td>IIb</td>
<td>.59</td>
<td>.06</td>
</tr>
<tr>
<td>IIIa</td>
<td>.46</td>
<td>.24</td>
</tr>
<tr>
<td>IIIb</td>
<td>.55</td>
<td>-.03</td>
</tr>
<tr>
<td>IV</td>
<td>-.09</td>
<td>.15</td>
</tr>
<tr>
<td>V</td>
<td>-.12</td>
<td>.01</td>
</tr>
</tbody>
</table>
The foregoing has already brought the γ-scores into the discussion, actually the subject of the next section.

8.5 HYPOTHESES γ₁ AND γ₂: “SATISFIERS” AND “DISSATISFIERS”

8.5.1 The data

In section 8.3.3 we have found support for the concept which is fundamental to Maslow’s theory, namely that of the dynamic relationship between the basic needs: we have shown that the extent of growth along the need hierarchy is directly related to the position in the occupational hierarchy. This result was arrived at in the face of (and paradoxically because of) the failure of two hypotheses. One of these hypotheses (β₃), if supported, would have opened the way to an explanation of the “satisfier/dissatisfier phenomenon”; this explanation having been nullified by the failure of the hypothesis, this phenomenon now becomes a crucial issue in itself.

The hypothesis now under consideration reads as follows (5.2.4):

“Hypothesis γ₁. Factors in the work situation which fulfil the “higher” needs give rise to satisfaction (“satisfiers”), those which do not fulfil the “lower” needs give rise to dissatisfaction (“dissatisfiers”; there is no effect in the complementary cases.”

Fig. 8.5.1.1 illustrates the relevant data for all four occupational levels to which the instrument γ was administered.

Comparison with the hypothetical graph fig. 5.3b discloses that the actual data are strongly at variance with hypothesis γ₁; the typical skewness caused by empty upper left-hand and lower right-hand quarters, associated with the “satisfier/dissatisfier phenomenon”, is missing for all four graphs. Furthermore all factors in the work situation are apparently “satisfiers”; the graphs are symmetrical in the sense that they do not “slant”, but they are asymmetrical in the sense that the negative scores are lower than the positive scores.

However, there is once again no point in jumping to conclusions. To complete the picture, we have drawn in what we shall call the “centrelines” of each of the four graphs; as is readily seen, most of these lines, apart from falling well to the right of the neutral axis, seem to slant slightly in the expected direction, i.e. to the top right. Possibly the instrument has failed to bring to light a phenomenon which is present in reality. After all, the reliability and the validity of the instruments used in this study have not yet been discussed, and non-support of hypotheses is still attributable to invalid and/or unreliable data.

4 The centrelines have been constructed midway between the lines of least squares of the seven midpoints of the positive and negative means.
The Hypothesis $\gamma_1$: level 0 ($n = 245$), level 1 ($n = 33$), level 2 ($n = 89$) and level 3 ($n = 243$); mean scores

Furthermore, the objection might be made that Herzberg’s operational definition of a “satisfier” or a “dissatisfier” (at least as it follows from the method used in the original study), is not “to what degree do people (dis)like certain
factors" but: "to what extent do people name certain factors as pleasant or unpleasant", and that therefore our data have actually no bearing on Herzberg's findings.

When considering the scale we have used to obtain the data under discussion (appendices 7 and 8, instrument γ), it will be noted that one extreme of the scale reads: "does not apply". The reader may feel (though the present writer would not agree with him) that the scales used are actually made up of two distinct parts: one part consisting of the complementary categories "does not apply" and "does apply", and the latter category containing the scale of (un)-pleasantness of the factor when the case does apply.

However, be that as it may, the advantage of the scale thus constructed is that it allows us to stick more closely to Herzberg's operational definition. It enables us to compare (percentages of) individuals who indicate certain factors to be present in the situation, both in a negative way and/or in a positive way, without bothering about gradations of (dis)satisfaction. The only difference with Herzberg's design which then remains, is that in that study subjects actually had to recall these factors (or incidents).

Fig. 8.5.1.2 represents the data. Comparison with fig. 8.5.1.1 shows that both sets of data correspond to a considerable extent; the slanting centrelines in particular show an identical pattern.

On the assumption that the "satisfier/dissatisfier phenomenon" is actually present (or rather — hidden!) in the data, we computed the significance of the slant of the centrelines of all four graphs in both figures. The crucial issue is, of course, whether the factors which correspond to the higher needs are seen more as "satisfiers" when these needs are fulfilled than they are seen as "dissatisfiers" when these higher needs are frustrated, and conversely, whether the factors which correspond to the lower needs are seen more as "dissatisfiers" when these lower needs are frustrated than they are seen as "satisfiers" when these lower needs are fulfilled.

Basically, this is a matter of comparing two distributions, one of the positive, and one of the negative scores on each of the seven categories; two distributions of which the one for the positive scores would have to show a bias towards the higher needs, in comparison to which the one for the negative scores would have to show a bias in the direction of the lower needs.

Since the hierarchy of basic needs may be considered as an ordinal scale, we apply again the Mann-Whitney U test (one tailed) to compute the significance of a possible difference in the two distributions.⁵

The data which provide our two distributions may be derived in two different ways.
1. The first is based on the data as represented by fig. 8.5.1.1.
   For every individual (in each sample) we compute the difference between his positive

⁵ Siegel, 1956, p. 116.
The Hypothesis $\gamma_1$: level 0 ($n = 245$), level 1 ($n = 33$), level 2 ($n = 89$) and level 3 ($n = 243$); percentages

and his negative score on each category; the sign of this difference shows whether the corresponding factor is for the individual a "satisfier" or rather more a "dissatisfier".\textsuperscript{6}

\textsuperscript{6} I. The reader will remember that no individual was presented with the same item both in a positive and in a negative sense, which means that in actuality scores on different items were subtracted. (See 6.1). On first sight this would seem nonsensical, but the reader will realize that the balancing of the instrument takes care of this: a score difference $A - B$ for one individual is balanced by a score difference $B - A$ for another individual, and this occurs both on the positive and on the negative side.

2. The omission of the "neutral" cases (individuals for whom the factor is "satisfier"
The second computation is based on data as represented by fig. 8.5.1.2. For every category we compute the number of individuals (in each sample) who indicate that they perceive the corresponding factor as "satisfier" as against the number of individuals who indicate that they perceive the factor as "dissatisfier" without bothering about scores; in other words, we count the number of individuals who did not indicate the answer "does not apply".7

In both cases we compare two distributions of seven numbers each.

Table 8.5.1.3 represents the levels of significance of the relative "shift" of the data in both distributions, and thereby the significance of the slant of the centrelines in the graphs (figs. 8.5.1.1 and 8.5.1.2) in the direction prescribed by hypothesis γ₁.

<table>
<thead>
<tr>
<th>Hypothesis γ₁. Significance of &quot;slant&quot;. Levels 0, 1, 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>**On the basis of level</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

Because of the numerical inequality of the samples, these levels of significance cannot be compared directly. For level 0, the case is clear. Level 1 is doubtful, level 2 is not significant. There is an impression of a gradual shift which is (with the exception of the small and therefore less reliable sample of level 1) confirmed by the centrelines in figures 8.5.1.1 and 8.5.1.2; indeed, the slant for level 3 is not only not significant, but actually contrary to the hypothesized direction.

8.5.2 Discussion

Numerically, the sample of level 3 (n = 243) is equal to the sample of level 0 (n = 245) and therefore the results for these two levels can be compared.

and "dissatisfier" to the same degree), ensures the independence of both populations which are being compared, which is a prerequisite for the application of the Mann-Whitney U test. (Cf Spitz, 1965, p. 364).

7 This procedure automatically takes care of the prerequisite mentioned in the previous footnote, sub 2.

8 The slant actually occurs in the opposite direction (n.s.).
Consequently, it means something that the slant of the centreline for level 0 is strongly significant and in the hypothesized direction, while the slant of the centreline for level 3 is not.

Apparently, we must not resign ourselves to the fact that our hypothesis $\gamma_1$ is only partly supported by level 0 and leave it at that; the significantly different outcome for the two levels 0 and 3 should warn us that our hypothesis was not only not very good, but that it may actually be incorrect. And it looks like there might be an alternative just around the corner, so to speak.

In fig. 8.5.2, we have represented the data on relative satisfaction or dissatisfaction with the various job aspects as measured by instrument $\gamma$, for two parts of the samples of both levels 0 and 3. These two pairs of subsamples are distinguished as to their level of general job satisfaction.

Since the median score on general job satisfaction, as measured by question $\delta_1$, turns out to be close to 7.00 for both levels, we have made up the two parts of both samples from those individuals who scored higher than 7 ("$\delta_1 > 7$") and those who scored lower than 7 ("$\delta_1 < 7$"), so as to obtain subsamples which were numerically as equal as possible, while definitely unequal as to their level of general job satisfaction.
From fig. 8.5.2 it now becomes clear that the different slant in figs. 8.5.1.1 and 8.5.1.2 for levels 0 and 3 has something to do with general job satisfaction.\(^9\) Even though the subsamples are so much smaller and this time we have to use a two-tailed test (as we are not testing an *ante-factum* hypothesis), we still find for the slant to the left for \(\delta_1 < 7\), for level 3 (fig. 8.5.2b) a level of significance of \(p = .056\), which approaches quite closely the maximum value we generally adopt in this study.

Though the slant to the left is not significant for level 0, \(\delta_1 < 7\), we must conclude, however, that hypothesis \(\gamma_1\) remains not merely unsupported by the data, but that it is actually false; a tendency for it to be supported under certain circumstances is not merely weakened, but is actually *reversed* when circumstances are different. It is important to note that this is not necessarily related to occupational level in itself; *it would seem that general job satisfaction is the variable which really matters.*\(^1\)

Here, then, we have come to rather a turning point in our investigation; we conclude that the "satisfier/dissatisfier phenomenon", which we could not explain on the basis of Maslow's theory, now turns out to be a fallacy. It will, of course, be necessary to back up this conclusion; this we shall try to do later on (9.2). At this moment we proceed with our hypotheses, which, incidentally,

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\(^9\) We restrict this discussion to the levels 0 and 3, because only these samples are large enough to allow the making of subdivisions and still retain enough individuals in each to make statistically significant inferences.

\(^1\) At this point we are able to complete an argumentation which we tacitly left unfinished earlier.

In section 8.3.3 we concluded that the data presented there did not show a "dominating" need category. This is certainly true for the samples in question, but — as we have omitted to point out at the time — the data still allow for the existence of a "dominating" need category on the individual level. Fig. 8.3.1.1 would also have been obtained if a "dominating" need category *did* exist for all individuals in each sample, provided these "dominating" need categories were distributed rather evenly over the whole of the hierarchy of basic needs.

The above conclusion that the "satisfier/dissatisfier phenomenon" is a fallacy, now permits us to refute this argument as follows:

If these individual "dominating" needs existed, then the "satisfier/dissatisfier phenomenon" would also be present on the individual level: for all individuals in a particular sample the factors corresponding to needs on the level of and above the "dominating" need category would act as "satisfier", and those on the level of and below the "dominating" need category would act as "dissatisfier" and, even if the individual "dominating" need categories were distributed equally over the whole hierarchy, the overall result of this would be that the factors corresponding to the higher needs would act more like "satisfiers", while those corresponding to the lower needs would act more like "dissatisfiers". This, however, would show in the data as we presented them, (figs. 8.5.1.1, 8.5.1.2) and as it does *not* show, we may conclude that the concept of "dominating" need is not tenable even on the individual level.
will throw some more light on our second conclusion concerning the general job satisfaction as a meaningful variable.

8.5.3 **Hypothesis \( \gamma_2 \): The explanation of the "satisfier/dissatisfier phenomenon"**

Our previous discussion obviates any further comment on hypothesis \( \gamma_2 \), which reads (5.2.5):

"**Hypothesis \( \gamma_2 \).** The point of conversion between the "satisfiers" and the "dissatisfiers", referred to in hypothesis \( \gamma_1 \), corresponds to the need category referred to in hypothesis \( \beta_3 \) (and shifts through the need hierarchy accordingly)."

No support was found for hypothesis \( \beta_3 \) (8.3.3), and we have just shown hypothesis \( \gamma_1 \) to be false (8.5.1); hypothesis \( \gamma_2 \) simply does not have a fighting chance.

8.6 **Hypotheses \( \delta_1 \) and \( \delta_2 \)**

8.6.1 **The data**

The hypotheses \( \delta \) were supposed to prove that the "satisfier/dissatisfier phenomenon" actually operates once the occurrence of the phenomenon was established. Accordingly, hypotheses \( \delta_1 \) and \( \delta_2 \) were formulated as follows (5.2.6):

"**Hypothesis \( \delta_1 \).** The correlation between the general job satisfaction and the relative fulfilment of the "higher" needs will be higher than the correlation between general job satisfaction and the relative fulfilment of the "lower" needs."

"**Hypothesis \( \delta_2 \).** The correlation between the general job satisfaction and the relative frustration of the "lower" needs will be higher (in absolute value) than the correlation between general job satisfaction and the relative frustration of the "higher" needs."

In view of the failure of hypothesis \( \gamma_1 \), it would seem futile to take the trouble to test the hypotheses \( \delta \). However, it so happens that the data pertaining to these hypotheses will help us to gain some insight into the truth which will have to replace our previous false presuppositions.

Fig. 8.6.1 represents the correlation coefficients (Spearman \( r_s \))\(^2\) between item scores and scores on each of the measurements of general job satisfaction, i.e. on questions \( \delta_1, \delta_2 \) and \( \delta_3 \) (see appendix 7), arranged according to need category. Three sets of data are represented: those for level 0, those for levels \( 1+2 \) taken together, and those for level 3. The coefficients belonging to positive items are represented at the right-hand side, the coefficients belonging to the negative

The hypotheses δ: correlation coefficients (Spearman \( r_s \)) between \( \gamma \)- and \( \delta \)-scores

**Fig. 8.6.1**
items at the left. Only those coefficients which are significant by Kendall's test (one-tailed), were drawn in; the values of corresponding to significance levels of \( p = .05 \), \( p = .01 \) and \( p = .001 \) are indicated by vertical lines.

It should be noted that the number of significant correlations is rather small; the number of correlations per category is, of course, 12 for the positive side and 12 for the negative side.

The reason for this is undoubtedly that, in the case of correlations, items have to be treated singly instead of using 4 items to represent a whole category. As might be expected, the significant correlations with question \( \delta_1 \) are the most numerous.

8.6.2 Discussion

Because of the relatively small yield in significant correlations, it is not possible to confirm by tests of significance the trends appearing in the distribution of the significant coefficients over the need categories which are pertinent to the hypotheses now under discussion. We must confine ourselves to discussing trends as they appear in figure 8.6.1.

According to hypothesis \( \delta_1 \), more significant coefficients should occur at the top right-hand (positive) half of each picture than at the lower right-hand half. This seems to be the trend for level 0 and levels 1 + 2 taken together, but not for level 3.

According to hypothesis \( \delta_2 \), the reverse should be true for the left-hand (negative) half: frustration of the factors corresponding to the lower needs gives rise to dissatisfaction, but frustration of the factors corresponding to the higher needs does not.

Levels 3 and 1 + 2 do not support this; data on levels 1 + 2 are very meagre indeed, and for level 3 significant coefficients occur not only for need category IV, but for need category I as well.

The data on level 0, however, seem to convey more meaning; what they convey is directly at variance with hypothesis \( \delta_2 \): it is not the lower needs which show the correlations but the higher needs, just as was the case for hypothesis \( \delta_1 \).

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4 The signs have been reversed for the coefficients relating to the questions \( \delta_2 \) and \( \delta_3 \); cf the wording of the three questions in appendix 7.
5 At each side, 4 items per need category, 3 measurements of general job satisfaction (\( \delta_1, \delta_2, \delta_3 \)).
6 At this point, as before (8.2.2 point 2) and (8.4.2), we draw the reader's attention to the fact that once again the phenomenon under discussion seems to manifest itself most clearly on the negative side.
As stated above, the data presented in this section are not conclusive. But they do not stand alone: the point is that they are directly related to the already established falseness of hypothesis $\gamma_1$. (8.5.1).

The two hypotheses $\gamma$ as well as the two hypotheses $\delta$ are derived from the “satisfier/dissatisfier phenomenon”. If we restrict the discussion for the moment to level 0, then we have just found indications that hypothesis $\delta_1$ holds, but that hypothesis $\delta_2$ is false: the data pertaining to the latter actually point in the opposite direction. At the positive side, the higher needs correlate strongest with general job satisfaction (hyp. $\delta_1$); at the negative side, not the lower needs do so (hyp. $\delta_2$), but once again the most significant correlations are found for the higher needs. Ergo, the higher needs seem to have the strongest relation to the general job satisfaction both at the positive and at the negative side. We must conclude that the higher needs are stronger than the lower needs, and this conclusion is confirmed by other sets of data which we have already presented:

1. When we look at the direction of the centrelines in figure 8.5.2, we notice that the difference in general job satisfaction causes the centreline to “swivel”, as it were, around a point which is closer to the lower needs than it is to the higher needs. Factors in the work situation corresponding to the higher needs are apparently “responsible for” a greater shift of this line than are the factors corresponding to the lower needs; this is tantamount to saying that they are more important and hence that the higher needs are stronger — the conclusion we had reached above.

2. When we compare both graphs in fig. 8.5.2, we notice that the angle between the two centrelines is smaller in the second case, which represents the data pertaining to level 3; the difference in importance which we have just observed between factors corresponding to the higher and to the lower needs is much less marked, apparently, for level 3 than for level 0; this difference between levels 0 and 3 we had also found above.

3. The finding that factors corresponding to the higher needs are more important than those corresponding to the lower needs, and that this is more true for level 0 than for level 3, is also in agreement with fig. 8.3.1.1; the difference in need strength as it appears there, is more marked for level 0.

4. Finally, we have noticed earlier (see the closing paragraphs of section 3.3), that non-specific items, such as “I like the kind of work I am doing” load mainly on a factor which may be interpreted as representing the categories I and IIa. To the extent that such non-specific items express general satisfaction with the job, this also means that (these) higher needs are most strongly correlated with general job satisfaction.

We are now able to integrate all the findings which we have discussed in this chapter, as follows:
Within the range of occupational-hierarchical levels which have been used in this study —

— the lower the position of the individual in the occupational hierarchy, the stronger the basic needs (8.3.1), and
— this difference is the greater, the lower the position of the basic need in the need hierarchy (8.3.1);
— the higher the position of the basic need in the need hierarchy, the stronger this basic need ("the higher needs are the stronger needs") (8.6.2), and
— this difference is the greater, the higher the position of the individual in the occupational hierarchy (8.3.1, 8.6.2);
— in principle, these four findings hold equally in the positive and in the negative sense (8.3.1).

Worded concisely, as done here, these conclusions appear rather cryptic; the five points just mentioned become clear at once when integrated schematically in the form of a graph.

The schematic graph in fig. 8.6.2 has been set up in exactly the same manner as the detailed graphs which we have used to illustrate the incidental results pertaining to the various hypotheses.

In Chapter 9 we will occupy ourselves with the various consequences of these results; before we come to that, an analysis of the reliability and the validity of the instruments by which they were obtained, is in order. A point which remains to be made before we finish the present section is, in a way, a prelude to that subject.

With respect to the results represented in fig. 8.6.2, we must remind the reader that their applicability is restricted; no levels below lower management were represented in the samples. (7.5).

As it is, the finding that the higher needs are the stronger needs holds for all four samples used. However, when we consider fig. 8.6.2 it will be clear that it is not at all certain that this will remain to be the case if we go further down the occupational hierarchy than we have done in this study; indeed, one might expect, on the basis of fig. 8.6.2, that from a certain level onward, the lower needs might be stronger than the higher needs.

This is an interesting point, since it means that the model represented by fig. 8.6.2 allows us to test the predictive validity of our instrument $\beta$ in a manner which we have not included in the requirements for the instruments used (6.1, remark E), because it goes, by its very nature, beyond the scope of the investigation proper; we refer to the predictive validity of the results for subjects which were not included in the study.
Our expectation that, for lower and lower occupational levels, a point would be reached where the lower needs become stronger than the higher needs, is, of course, a prediction which can be (and should be) tested by further research.

But, as a preliminary to such future research we can once more — as we have done for the present study (Chapters 3 and 4) — resort to the existing literature. From it, we may glean an impression of whether such a prediction would have a chance to be corroborated. It so happens that we have the material at hand; if the reader once again turns to table 4.4, he will notice that Centers (1948), the “Instituut voor Arbeidsvraagstukken” (1963) and Blai (1964) have found
that for the lower levels (semi-skilled and unskilled) the lower needs are reported to be stronger.

In making this point, we have already informally started on the issue of the relative merits of our investigation and of the instruments in particular. We must now treat this matter more formally.

8.7 RELIABILITY AND VALIDITY OF THE INSTRUMENTS

8.7.1 Reliability

In section 6.3.2, sub "remark C", we explained how it would be possible to derive a measure of reliability for instruments $a$ and $\beta$ by comparing the scores obtained on the positive items as against those on the negative items of each instrument.

The reader may remember that because different versions of each instrument ("lists") were used, it was possible for the positive and negative items to be identical (the only difference between them being the presence or absence of a negation) without the consequence that the answer to a positive item might influence the answer to the corresponding negative item, and vice versa. This was brought about by administering both versions to different individuals. Under these conditions there are three requirements which have to be fulfilled in order to obtain identical results on both versions of one instrument:

1. the two samples to which each version of the instrument is administered should be equivalent;
2. the attitude towards each item should be the same, irrespective of whether the item is positive or negative;
3. the two instruments should be reliable.

To the extent that the first two requirements are met, a conclusion may be arrived at concerning the third.

Let us consider each requirement in turn.

Requirement 1: the two samples

This requirement is, in principle, fully met by the manner in which the two samples were obtained; since the four lists were distributed randomly among the respondents, the two samples are halves of one total sample and therefore equivalent, provided the total sample is large enough. It is obviously impossible to establish beforehand how large is "large enough", but it should be possible (and indeed it is necessary) to determine this afterwards.

Requirement 2: the same attitude towards positive and negative items

Two of the instruments used (as has already been mentioned in section 6.3.2, sub "remark C") meet this requirement as far as we know. By this we mean that, for instruments $a$ and $\beta$, we have stated no hypothesis to the contrary; in contrast to the hypotheses $\gamma$, hypotheses $a$ and $\beta$ are "symmetrical". We expected no differences between the positive and the negative parts of the graph in fig. 5.3c which illustrates the hypotheses $a$ and $\beta$.

So much for the two requirements which must be met to make possible an estimate
of the reliability of the instruments. It appears that the size of the samples used, and also the extent to which attitudes towards positive and negative items are actually identical, remain imponderabilia in the game.

Now let us turn to the facts.

On looking at fig. 8.3.2, the reader will notice at a glance that the positive and the negative data represented there are not identical, and with the help of a ruler he can easily determine the asymmetry of all four graphs. Which of the three possibilities apply? To what extent is this a matter of the samples being too small, of unequal attitudes, of unreliability, or of all three? Let us first of all assess how serious the matter is.

Applying once again the Mann-Whitney U test, for the positive versus the negative score distributions of each of the seven need categories for each level, we find that, for instrument α, out of 21 differences (3 levels) only 2 are statistically significant. 7

For instrument β, things seem to be worse: out of 28 differences (4 levels), 7 are significant. 8

Now the breakdown for the four levels in the latter case gives us an opportunity to decide to what extent these differences must be attributed to sample-size, real existing differences, and/or to unreliability.

In fig. 8.7.1 we plotted the z-values which are a measure of the significance of the differences between the score distributions under consideration. 9 The z-values which correspond with levels of significance p = .05, p = .01 and p = .005 are indicated in the figure by vertical lines.

From the considerable conformity of the graphs, especially when we consider those for level 0 and level 3, it is evident that the differences between the score distributions must be attributed to a large extent to actually existing differences in attitudes towards the positive as compared to the negative items. 1 For levels 0, 2 and 3, with sample sizes of n = 245, 89 and 243 respectively, we may conclude that the discrepancies between the z-values are well below values which would indicate unreliability of the instrument. For level 1, with a sample size of only n = 33, we notice that this is so to a lesser extent, which, of course, is not really surprising. This sample is apparently not “large enough” according to requirement 1, above.

Considering the sizes of the samples used for instrument α (n = 30, 31 and 71 respectively), it will be clear that it will be less easy to distinguish in this manner between the influence of actually existing differences and differences due to unreliability. For instrument γ, which has been administered to the same samples as instrument β, this kind of reliability analysis cannot be performed since actual differences have been hypothesized (and have indeed been found); however, we may consider the outcome for instrument β to be such that we may confidently come to a positive judgement concerning the reliability of all three instruments used in the study on the basis of their comparable contents.

Of course, some attention should be given at this point to the rather perplexing

7 Both for level 3 (n = 71): IIIb (p = .006) and V (p = .028) by a two-tailed test.
8 Level 0 (n = 245): I (p < .001), IIa (p = .008); level 2 (n = 89): IIa (p = .016), IIb (p = .038), IIIb (p = .05); level 3 (n = 243): IIa (p = .022) and IIIa (p = .008).
9 Spitz (1965), pp. 367, 408/409.
1 The Spearman rank correlation between the z-values for levels 0 and 3 is rs = .89, which, by a two-tailed test, is significant at the .002 level. Cf Spitz (1965, pp. 364 ff, 274 and 431).
Values of "z" for the difference between positive and negative score distributions on instrument $\beta$, for level 0 ($n = 245$), level 1 ($n = 33$), level 2 ($n = 89$) and level 3 ($n = 243$)
conclusion to which the foregoing analysis has led us, namely to the apparently existing differences in strength of the need categories when considered in the positive and in the negative sense.

For need category I, the difference is in the positive direction (the needs for self- actualization are perceived more strongly in the positive than in the negative sense); for need categories IIA, IIB, IIIA and IIIB this is the other way around, whereas the two lowest need categories show no difference. The distinction between the need categories I and IIA is especially remarkable in view of the results of the factor analysis which we shall discuss presently.\(^2\)

Referring to sections 8.2.2, 8.4.2 and 8.6.2, where we already noted the slightly different results when comparing the data from the positive and the negative items, we remind the reader of a quotation from a linguist which we inserted in section 6.1 (footnote), in which it was pointed out how little attention negative sentences have received from linguists in general. We feel that our results might be of interest to investigators in this field, considering how they upset the expectations of that same author (Kraak, 1966, p. 89): "It seems to me an acceptable supposition that the set of sentences of a language consists roughly of two sub-sets of equal size, of positive and negative sentences respectively, so that for every positive sentence a negative sentence may be found, and vice versa. On the assumption that languages are highly structural, it would further seem likely that, because of this possible one-to-one correspondence, the differences between positive sentences also exist between negative sentences, and vice versa: the language structure as a whole might therefore be found to be present in the same manner in negative sentences as in positive sentences."

From the data we have presented, it would seem that the assumption put forward here does not hold; it would seem of interest to the linguist to investigate this further, possibly by means of an instrument built up in the same carefully balanced way as the instruments we have been using.

8.7.2 Validity

8.7.2.1 Content validity

In section 6.3.2 we have seen how the "random sampling" of the items to represent the need categories, if successful, is conducive to what Cronbach & Meehl (1955) call "content validity".

Up to now we have made a point of stressing that, even though our choosing of items did in fact amount to random sampling, we still did not want to go so far as to draw conclusions based on inter-category comparisons of scores. In particular we mentioned that the general shape of fig. 8.3.1.1 should not entice the reader to conclude that the higher needs were in general stronger than the lower needs.

In the previous section, however, we have just come to the conclusion that this is, after all, exactly what is the case; from this would follow that the sampling has in fact been random, as envisaged, and this, in turn, would be an indication of the content validity of our instrument \(\beta\).

\(^2\) In treating the results of the present study, we adhere in principle to the rule, dictated by the method of investigation used, of not discussing results on the level of individual items since we consider these strictly as randomly chosen representatives of the categories. In view of the last remark, however, it is pertinent to state that an analysis of data on the level of individual items does not help to clarify this point.
8.7.2.2 External criterion

In section 6.3.3 we explained how general job satisfaction, as measured by means of questions \( \delta_1, \delta_2 \), and \( \delta_3 \), may be used as an external criterion for determining the external validity under the presumption that: "scores on the positive \( \gamma \)-items will be consistently higher and scores on the negative \( \gamma \)-items will be consistently lower for the high-S group than for the low-S group."

It suffices to point to fig. 8.5.2 to show that this applies when \( \delta_1 \) is used as the criterion. In view of this univocal result (and of the amount of computer time involved) we abstained from calculating comparable data with the scores on questions \( \delta_2 \) and \( \delta_3 \) taken as a criterion, since the correlations between the scores on question \( \delta_1 \) and the scores on questions \( \delta_2 \) and \( \delta_3 \) respectively were found to be quite satisfactory.  

8.7.2.3 Factor analysis

The foregoing analysis concerned instrument \( \gamma \); the factor analysis which we shall now discuss was carried out on (an adaptation of) instrument \( \beta \), which had been returned by 262 respondents.  

The reader will remember (6.3.2) that the construction of the instruments used in the study rendered impossible the carrying out of a factor analysis of the responses obtained. It was necessary to create a comparable instrument out of the corresponding parts of each list of either instrument and administer this instrument to a new sample. We argued (7.4) that it would not be necessary to administer this instrument to the same or comparable samples as those used in the actual study, indeed that it would be even more meaningful not to do so. Accordingly, an instrument consisting of a combination of the positive parts of each of the four lists of instrument \( \beta \) was administered to a sample of the personnel of Delft University of Technology.

Table 8.7.2.3 shows the factor loadings on each item for 5 rotated factors.  

In order to make the information contained in this table as accessible as possible, only factor loadings > |.40| have been written in, while loadings between |.20| and |.39| are represented by a •. Furthermore, the order of the factors has been rearranged; the initial factor number is indicated in brackets in the heading.

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8. These correlations, all significant well beyond the .01 level, are as follows:

<table>
<thead>
<tr>
<th>level</th>
<th>( \delta_2 )</th>
<th>( \delta_1 ) vs ( \delta_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-.53</td>
<td>-.30</td>
</tr>
<tr>
<td>3</td>
<td>-.47</td>
<td>-.45</td>
</tr>
</tbody>
</table>

4 Normal Varimax-rotation for simple structure. We wish to express our debt to drs. G. van der Veer, of the Psychological Research Laboratory of the "Vrije Universiteit" of Amsterdam for making the necessary programs available to us.

5 It will be understood that in choosing the number of factors, the subjective decision of the author is involved. Rotation of 5 factors showed the agreement between factors and need categories to the best advantage.
of each column. The entries in the first column indicate the Maslow category, while the entries in the second column indicate the text numbers according to appendix 2; both indications together allow the reader to find the text of each item there.\(^6\)

**Table 8.7.2.3**

*Factor loadings*

<table>
<thead>
<tr>
<th>need category</th>
<th>text number</th>
<th>item number</th>
<th>“I + IIA” (2)</th>
<th>“IIb” (4)</th>
<th>“IIIA + IIIB” (1)</th>
<th>“IV” (5)</th>
<th>“V” (3)</th>
</tr>
</thead>
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<td>I</td>
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<td></td>
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<td></td>
<td>2</td>
<td>20</td>
<td>.75</td>
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<td>*.</td>
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<tr>
<td></td>
<td>3</td>
<td>8</td>
<td>.58</td>
<td></td>
<td>.58</td>
<td>.77</td>
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<td></td>
<td>4</td>
<td>36</td>
<td>.77</td>
<td></td>
<td>.56</td>
<td>.59</td>
<td></td>
</tr>
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<td>26</td>
<td>.59</td>
<td></td>
<td>*.</td>
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<td>.57</td>
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<td>.51</td>
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<td>11</td>
<td>.56</td>
<td></td>
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<td>4</td>
<td>33</td>
<td>.51</td>
<td></td>
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</table>

\(^6\) The numbers in the third column refer to the numbers of the items in the actual questionnaire; the missing numbers are those of the training items, which were left out of the factor analysis under discussion here.
Clearly, the correspondence between factors and need categories is not as close as one might like it to be, but by and large the result is such that the conclusions drawn in the previous sections are not impaired. This is the more true when it is realized that these conclusions are not clad in terms of distinctions between the individual need categories, but rather between the two groups of the "higher" and of the "lower" needs. It is clear that on that general level, the items may be considered quite "pure".

Four groups of items are clearly distinguishable: those comprising the need categories I + IIa, IIb, IIIa + IIIb and IV + V. Though the latter two need categories seem to be represented by two separate factors, it appears that the items used to represent them were in two cases incorrectly placed, while one item must be considered impure.

We shall not go into the subject of the sometimes surprising insight into the real meaning of some of the items, which is gained from this analysis. The interested reader is referred to the appropriate texts given in appendix 2. At this point it may suffice to say that it has proved possible to set right the mistakes from the present instrument by replacing the incorrect items by certain of the training items, on the basis of a factor analysis of the complete instrument. It would be advisable to use the instrument thus adapted, when further research along the lines indicated in the present monograph is contemplated.

A few general remarks about the results of the factor analysis are pertinent, since they go beyond a mere determination of the relative "correctness" of the instrument used, and offer some insight into the "correctness" of the need categories as such.

Rotation of more and more factors leads at no point to an appropriate split of the combination I + IIa, nor of the combination IIIa + IIIb.

We shall discuss non-instrumental causes for the latter combination later on (9.1.5); in the present context we only need to point out that, in principle, the failure of the two subcategories IIIa and IIIb to turn up as separate factors may be attributable to unsatisfactory items.

The combination I + IIa is a different matter. Considering the true nature of the self-actualizing needs, it would seem quite possible, in this case, that the...

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7 Dutch version appendix 5. We make an exception for item 32, which shows no appreciable loading on any factor whatsoever. This item was a linguistic blunder which somehow escaped the screening of the pilot studies. The Dutch version reads: "... waar ik niet op m'n alleentje zou hoeven te werken". Many respondents jotted down their disgust about a colloquialism which, as the author found out too late, seems to be restricted to his family circle. An interesting point is that this blunder shows the sensitivity of the instrument used; this one item — in contrast to the others — did apparently not make enough sense to enough people to show a loading anywhere.

8 See the last footnote in section 9.4.
items chosen to represent this need category do not, in fact, do so. It may very 
well be that “self-actualization”, operationalized by means of the items used, 
is not the “self-actualization” as meant by Maslow (1.5.2, 2.4), but that response 
to the items chosen occurs simply in terms of the need category IIa: needs for 
self-esteem. It may just be that real “self-actualization” escapes operationaliza­
tion into mere items on a questionnaire; there may also be a more consequential 
solution. The discussion of that, however, will also have to wait till section 9.1.5.

This need category IIb, “respect from others”, comes out in our results in a 
very “pure” form indeed. In addition to this, mention must be made of the 
fact that the category IIb is the first factor to emerge and the last to “evaporate” 
when more and more factors (beginning with two) are rotated consecutively. 
More specifically, the distinction between IIb and I + IIa is very conspicuous 
right from the start.

This finding would seem to be of some consequence in relation to some of the work 
of Mulder (1963b).

Mulder runs (communication) experiments, in which he tests the hypothesis that 
satisfaction is caused by “self-actualization”. The experimenter expects this hypo­
thesis to fail (it is an alternative to the one he adheres to), on the grounds that “it 
is possible that self-realization (as defined here) only leads to satisfaction, when social 

Our finding that the need category IIb (respect from others) immediately detaches 
itself from the I + IIa group would seem to refute this possibility sufficiently.9

9 Even so, Mulder’s tentative hypothesis fails to find support in his data. In our 
opinion, however, this does not disprove a relationship between general satisfaction 
and self-realization, considering Mulder’s operational definition (to which the bracketed 
words in the above quotation refer): “. . . we are justified to define operationally self 
realization as own accomplishment of the most important part of the job, the making­of-the-solution, and in doing so, being responsible for the correctness of the solution”. 

Indeed, such an operational definition hardly does justice to what Maslow means by 
self-actualization. Mulder does not quote Maslow when he discusses this concept, but 
he does quote Fromm, (1942), Horney (1942), and Haire (1956); the latter, as Mulder 
(op. cit., p. 23) puts it: “inspired by McGregor”. A set of names (and of views re­
garding the matter) which will do just as well.

There is no doubt that experimental investigations are useful tools among the 
various ones which are available to the social scientist. However, it seems to us that 
here we have a fair example of a reductive-analytic approach to a holistic concept; 
the consequences of such an approach will sometimes be unfortunate.
9.1 MASLOW

What do our results mean for the theory which we have discussed in Part I? It should be remembered that we have restricted our investigation to what we considered to be the core of Maslow's theory of motivation: the hierarchy of prepotency of the basic needs.

The applicability of this dynamic model to the work situation has, we feel, been shown to satisfaction; besides, a few details which were not clear have been filled in. We shall discuss these one by one.

9.1.1 The usefulness of the theory for the work situation

From our reinterpretations at the beginning of our enquiry (Chapters 3 and 4) and from the results of our own factor analysis (table 8.7.2.3), we may conclude that the categories of the basic needs can be fruitfully used as categories with which to describe the work situation. With Maslow, we may speak of the basic needs as "syndromes" of the work situation, under which incidental aspects of that situation and — as symptoms — the needs which correspond to those aspects may be subsumed. This means that it will be possible to describe existing work situations in a more fundamental manner, that is, on the basis of a dynamic model.¹

¹ This means in practice for instance, that the classic attitude survey questionnaire (e.g. van der Graaf & Huizinga, 1969) — consisting of a great number of incidental items — might profitably be substituted by an instrument much like our instrument γ.
9.1.2 The dynamics of the hierarchy

We have not seen the "long-time vector, or directional tendency" (1.6.1), which relates the basic needs to each other and which Maslow identifies as "psychological growth" (1.6.2), in actual operation: apparently, our subjects were too old to show much psychological growth with time (8.4.1). But we have certainly observed the results of differential growth in the relationship between the systematically shifting need pattern and the position of the individual in the occupational hierarchy (4.3, 8.3).

9.1.3 No "dominating" need category

In attempting to explain Herzberg's results (the "satisfier/dissatisfier phenomenon") on the basis of Maslow's theory (4.1), we were confronted with the unclear issue of the relative degree of dominance of the motivational behaviour by one particular need. We have presented a number of statements from Maslow's texts which were very explicit on this point, but unfortunately they were both pro and contra; now we are in a position to say that our data contain no indication of such a "dominating" need category in the work situation (8.3.3). In addition to this, the reason for postulating the existence of such a "dominating" need category seems to have disappeared, considering our failure to reproduce the "satisfier/dissatisfier phenomenon" (8.5). The latter failure which, as we shall see, has to take on an abundance of contradictory evidence requires, of course, a thorough investigation in itself. We shall discuss what we have found in this respect in section 9.2.

9.1.4 The higher needs are the stronger needs

We must draw the reader's attention to one aspect of our data which seemingly refutes one of the most far-reaching characteristics of the basic needs to which Maslow calls attention, namely the relative weakness of the higher needs (and the growth needs in particular) as compared with needs lower in the hierarchy (2.5). Does not our final conclusion, to the effect that the factors corresponding to the higher needs are the most important, and that therefore the higher needs themselves are the stronger needs for the subjects we have studied (8.6.2), completely upset the applecart?

At first glance this would seem to be the case, but we must be careful not to fall victim to the misunderstanding, pointed out earlier (1.4), concerning the difference between "prepotent" and "stronger". When Maslow insists that the growth needs are weaker, that they are easily "drowned out" in favour of the deficiency needs (2.5), then this must be understood on a fundamental level; it is the basic characteristic of the hierarchy of prepotency. "The prepotent
need is strongest in the sense that it has to be satisfied first. As soon as it is satisfied (at least to some extent), then the next category of basic needs ... in the hierarchy of prepotency emerges, and needs from that category will now be found to be strongest ...” (1.4); therefore, to the extent that the lower needs are being more or less reasonably fulfilled, higher and higher needs emerge more and more strongly, eventually to become stronger than the needs which are prepotent to them. Consequently, under reasonably favourable circumstances, a moment will arrive when the subject has “moved up” the need hierarchy to such an extent that for him the higher needs are stronger than the lower needs. The growth needs “... only manifest themselves under conditions of affluence” (2.5). That they do manifest themselves for our Dutch subjects seems reasonable enough.

The reader will remember that our conclusion that, for our samples (and particularly our higher occupational-hierarchical samples), the higher needs are stronger than the lower needs, was not derived directly from the scores on the instrument by which need strength was measured (instrument β). Conclusions regarding the relative strengths of needs, based on data derived in such a direct manner, may always be contaminated, for instance, by such considerations as “social desirability” (8.1). Our conclusion was not based on the data in fig. 8.3.1.1, but on the fact that the higher needs showed more and higher correlations with general job satisfaction than did the lower needs. Therefore, whatever untoward influences may have co-determined our results, it may be said that the factor “social desirability” was not one of them.

9.1.5 Compound factors

In section 8.7.2.3 (the factor analysis) we have found two inseparable combinations of basic need categories, namely the combinations I + IIa and IIIa + IIIb. The combination IIIa + IIIb, of course, recombines two aspects of one basic need category which, on the strength of Maslow’s own statements in that respect, we have treated as independent categories throughout (1.5.1.3). Apart from possible methodological shortcomings, there may be two reasons for this recombination of the category III.

In the first place, the distinction between “receiving love” and “giving love” may not be as basic a distinction as Maslow insists it is. If we consider this less likely, then a second possibility would be that the distinction is merely not an appropriate one in the particular situation which was the subject of the present investigation, namely the work situation; it is to be regretted that we do not have the means to reach a conclusion on this issue.

With regard to the compound factor I + IIa we have already ventured the assumption that our category I-items may have failed to properly represent the needs for self-actualization (8.7.2.3).

Again barring a pure instrumental failure, there may also in this case be a more consequential reason.

As has been discussed extensively (2.3, 2.4), Maslow makes a qualitative distinction
between the growth needs and the deficiency needs, in connection with which he writes (1955, p. 10; see also 1.5.1.4): “The differentiation between these growth needs and basic needs is a consequence of qualitative differences between the motivational lives of self-actualizers and other people.needs for safety, the feeling of belonging, love and respect are all clearly deficits. But the need for self-respect is a doubtful case.” (Our italics).

It would be interesting if our results in this respect could be interpreted as resolving this doubt in the sense that the needs for self-esteem are growth needs rather than deficits.

Especially in connection with this particular issue, but also in connection with the general results of our factor analysis, it is of interest to compare our results with those obtained by Friedlander (1963) which we have discussed in section 3.3. Both combinations I + IIa and IIIa + IIIb occur there, while there also the subcategory IIb constitutes a factor in itself.

9.1.6 The sequence of the subcategories IIb and IIIa

As we have remarked before (3.4), these results by Friedlander (1963) have one thing in common with the results by Schaffer (1953) (3.2) and Herzberg et al (1959) (3.4), namely that their clusters or factors consistently show a “break” between the categories IIb and IIIa. To this we can now add our own factor analysis (table 8.7.2.3), where this same break occurs. Written out in full, the four results are as follows:

Schaffer (1953): IIa + IIb / IIIa + IIIb + IV
Friedlander (1963): I + IIa / IIb / IIIa + IIIb + IV
Herzberg et al (1959): I + IIa + IIb / IIIa + IIIb + IV + V
Own: I + IIa / IIb / IIIa + IIIb / IV / V

The reader will remember that we discussed at some length the details of the hierarchical sequence which we obtain when the categories II and III are split up into their “active” and their “passive” components (1.6.3). Although there is something to be said for a growth sequence V, IV, IIIb, IIb, IIIa, IIa, I, we argued that this would upset the order of prepotency V, IV, III, II, I.

From the above compilation of results, the solution to our dilemma is now obvious: the sequence can only be V, IV, IIIb, IIIa, IIb, IIa, I, since IIa never occurs in combination with IIIa and IIb never occurs in combination with IIIb.

So much for a few remarks concerning our results in relation to the theory which has been our main concern in this monograph. All things considered, we may conclude that the theory has stood up very well to the various tests to which we subjected it.

2 This is one other instance of the terminological mix-up we have referred to earlier (1.3, footnote). Instead of “basic”, read: “deficiency”.

3 There is yet another bit of evidence which leads up to the same conclusion. As we have already noted in section 8.3.1, a conspicuous “jump” in the levels of significance given in fig. 8.3.1.1 occurs between the subcategories IIb and IIIa. Apparently, the division between the combinations I + IIa + IIb and IIIa + IIIb + IV + V is quite a basic one.
The remainder of this chapter must be devoted to some of the other theories and philosophies with which we have had to deal in the course of our enquiry and, finally, with the practical consequences of our findings.

9.2 HERZBERG

We have seen that we have not been able to find support for the “dominating” need category which we had postulated as a step in an explanation of the “satisfier/dissatisfier phenomenon”. (Fig. 8.3.1.1).

Furthermore, we have not been able to reproduce the “satisfier/dissatisfier phenomenon” itself in anything like the clear-cut manner in which it is found in Herzberg’s own data (e.g. table 3.4); neither fig. 8.5.1.1 nor fig. 8.5.1.2 show clearly that some factors are primarily seen as “satisfiers” and others as “dissatisfiers”; in general, our conclusion has been that all factors are perceived more as “satisfiers” than as “dissatisfiers”.

However, close scrutiny has revealed that, at least for the higher occupational levels, the “satisfier/dissatisfier phenomenon” is present in the data to a statistically significant degree (table 8.5.1.3); still further analysis, on the other hand, disclosed that the occurrence of the phenomenon is not so much a matter of hierarchical level as of general job satisfaction. We have concluded that the higher needs are stronger determinants of general job satisfaction than are the lower needs, because the “satisfier/dissatisfier phenomenon” does manifest itself for a sample of individuals with high general job satisfaction, but, at the same time, the phenomenon shows a tendency to be reversed for samples with low general job satisfaction. (Fig. 8.5.2).

Now Herzberg claims general validity for his findings on the basis of a theoretical consideration, to the effect that the same factors are always “satisfiers” and that others are always “dissatisfiers” (4.2.2). In Chapter 4 we have already identified a few instances in the research literature where certain exceptions to this rule were found (4.3.1): some of the social factors tended to be less stable in this respect. Now, our conclusion must be that our own findings also refute the general validity of Herzberg’s findings, and thereby injure Herzberg’s Motivation-Hygiene Theory. (Herzberg, 1966).

Obviously, such a conclusion requires further corroboration.

At the time the results of our first pilot study came in, failure to find support for the generally known Herzberg findings by our method of research naturally caused us grave concern for the reliability and the validity of our instruments. This was the more so since Herzberg’s original work was widely acclaimed, for instance by Braifield (1960) and by Gellerman (1963, p. 48) who referred to the Herzberg et al study as “one of the most sophisticated studies that has yet been carried out in the field of work motivation”. In this country, Hofstede (1964,
p. 373) compared the Herzberg findings to “the Hawthorn-study, the experiments on leadership styles with schoolboys by Kurt Lewin et al and the experiments on resistance to change... by Coch and French”.

To confirm these opinions, an impressive array of studies duplicated the results of the original Herzberg study. Some of these followed exactly the method applied by Herzberg et al (1959), such as the “Instituut voor Arbeidsvraagstukken” (1963) which we have discussed before (1.4.1.2, 4.3.2.1); others are Saleh (1964), Scott Myers (1964), Friedlander & Walton (1964), Dysinger (1965), Dunnette (1965) and a later study by Herzberg (1965).^4

To these studies may be added the one by Gurin et al (1960) which we have also quoted earlier (4.3.2.3). As we have explained, Gurin et al categorized work factors as “ego (dis)satisfactions” (which we identified as corresponding to the Maslow categories I, II and III) and “extrinsic (dis)satisfactions” (Maslow categories IV and V). The data in table 4.3.2.3 are in percentages; when we combine some of the data from tables 6.4 and 6.5 from the report (op. cit., pp. 151/152), we find the following absolute data for the number of respondents naming each of the four possibilities (table 9.2):

| Table 9.2 |
|------------------|------------------|
| Number of respondents mentioning four types of work factors (Gurin et al, 1960) |
| ego dissatisfactions | 180 |
| extrinsic dissatisfactions | 400 |
| ego satisfactions | 503 |
| extrinsic satisfactions | 137 |

From these figures, the “satisfier/dissatisfier phenomenon” is also very much in evidence.

9.2.1 Objections

In spite of all this supportive evidence for Herzberg’s findings, a number of authors criticized the initial investigation on methodological grounds.

The reader remembers (3.4) that Herzberg and his co-workers used an incidence technique of data collection — asking their subjects to think of a time when they were feeling extremely happy or unhappy about their jobs, and to describe what incidents had led to these feelings. When all incidents had been collected, they were grouped into a number of factors which took shape as this content analysis went along.

^4 Other studies became more widely known at a later date, when they were quoted in Herzberg (1966, pp. 96 ff): Walt, Clegg, Anderson, Gendel, Perczel. (It is to be regretted that Herzberg omits giving the particulars necessary for locating the original papers).
Kahn (1961, p. 9) states: "When I first read the book, I was disturbed at the undeluded reliance on each respondent's retrospective selection of a time of high and a time of low morale on the job, and his identification of the factors which caused these periods . . ."

Vroom & Maier (1961, p. 433; see also Vroom, 1964, p. 129), underlining the explicit reason which Kahn proceeds to give for his scepticism, explain that "the obtained differences between events may reflect defensive processes at work within the individual. Individuals may be more likely to perceive the causes of satisfaction within the self and . . . tend to attribute dissatisfaction to factors in the work environment.""^5

When the results of our pilot studies continued to be at variance with the original Herzberg data, we made our own critical appraisal of Herzberg's method; this led to the following considerations.

1. The method used is based on the assumption that the importance of aspects in the work situation can be determined on the basis of the relative frequency with which these aspects are mentioned in a free interview situation. It would seem to us that this relative frequency is highly dependent on the degree of specificity of the aspect. It is conspicuous, for instance, how frequently the factor "company policy and administration" occurs (Herzberg et al, 1959, p. 72) and how this factor is mentioned in connection with practically all other aspects (op. cit., p. 75, table 7); "company policy and administration" would seem to be a typical factor into which all types of vague complaints and grumbles would tend to be coded, and this alone might be the reason for its relative frequency of occurrence.

2. From their previous, extensive review of the literature on job attitudes (Herzberg et al, 1957), the investigators had derived the notion that "satisfiers" and "dissatisfiers" represented different facets of the work situation (Herzberg et al, 1959, p. 7). In our opinion, the reliability of data collected by means of open interviews, when the interviewer is aware of the hypotheses under study, is doubtful; the fact that the incidents were coded by independent judges does not refute this argument. (Op. cit. pp. 38/39).

^5 A few years later Locke (1965) performed some experiments on the relationship between task-performance and liking of the task. He concludes on the basis of his results (op. cit., p. 384): "It seems clear that Ss who liked the task . . . were far more likely to attribute their liking to their own performance on the task than were those who did not like the task . . . The latter were more likely to attribute their dislike to attributes of the task . . . This at least suggests that Ss may tend to "externalize" the reasons for their failures or dislikes while attributing success and likes to their own skill and characteristics".

These conclusions substantiate the criticism by Vroom & Maier quoted above; Locke himself identifies them as "a source of bias . . . in the Herzberg et al results". (Op. cit., p. 385).
3. In comparing the relative merits of the open-ended interview, where the interviewer discusses actual events, as against the structured questionnaire involving rating or ranking of pre-determined items (op. cit., p. 15), the authors state that they feel that the open-ended interview is less susceptible to "a number of distorting forces" such as "halo", "social acceptance", "desire to please the investigator" and "unconscious motives". We find this argument not particularly convincing.

Herzberg et al (1959, p. 33) point out that all this is essentially a sampling problem, with population parameters which are completely unknown. To us it seems obvious that the "sampling" by the respondent out of the "urn" of his memory is highly biased when we consider the effect connected with each sequence. We would contend that the chance of an "event" occurring (a sequence being remembered) is directly related to the importance of the effect of the event on the respondent.

Let us explore the nature of this "sampling problem" somewhat further.

When we closely analyse the factors which Herzberg identifies as "satisfiers" and as "dissatisfiers", we notice several characteristic differences between these two groups of factors.

A. In the first place we have the distinction which Herzberg et al point out, and on which hinges the whole Motivation-Hygiene Theory which was consequently developed (Herzberg, 1966). The distinction between "satisfiers" and "dissatisfiers" respectively is expressed as: "... the factors related to the doing of the job and the factors defining the job context ..." (Herzberg et al, 1959, pp. 70 and 114).

In view of the criticisms under discussion, the question may be asked whether this distinction is an essential one and whether it is real or whether it could be an artefact caused by the methodological flaws pointed out above. The interpretation just given was arrived at "after the facts"; the point is whether the same clear-cut distinction between factors related to the doing of the job and context factors would have been arrived at if it had not been known which of these factors were "satisfiers" and which were "dissatisfiers". In other words, if one does not know whether a factor is a "satisfier" or a "dissatisfier", is then also the distinction between "factors related to the doing of the job" and "factors defining the job context" equally straightforward?

Graen (1966b) performed a study initiated by an illustration by Vroom (1965) of the manner in which the two factor theory might contaminate the coding procedure. Deriving items from the "Analysis of Factors" given by Herzberg et al (1959, p. 143/146), Graen factor analysed the scores obtained on these items from a sample comparable to the original Pittsburgh sample.

The results are such that Graen concludes (op. cit., p. 566): "In the present study many of the items derived from Herzberg's categories appear not to belong together. They did not demonstrate sufficient homogeneity to yield factors."

B. In section 3.4 we have described an experiment by which we obtained interpretations, by 10 independent subjects, of the Herzberg factors in terms of Maslow's categories. The booklet which was handed out to the subjects and which contained full descriptions of the Herzberg factors (Herzberg et al, 1959, pp. 44/49, 143/146), also contained an instruction to assign each of these factors to a group of "factors related to the doing of the job" or to a group of "factors defining the job context".
9.2.1

The result of this little experiment shows, that in 62% of the cases the subjects made the right choice; in 16% of the cases they could not decide and in 22% of the cases their choice was incorrect. In the parallel experiment described in section 3.4, however, in which respondents were asked to assign the Herzberg factors to Maslow categories, our subjects made 83% correct choices and 14% mistakes in terms of the distinction between higher and lower needs, as is shown in table 3.4, last column but one. Comparing this with the 62% correct and the 22% incorrect choices quoted above, it would seem that the distinction higher versus lower needs — to be taken here as an arbitrary alternative — is at least as real as the one Herzberg et al. make, and renders doubtful the intrinsic meaningfulness of the latter.

C. “Satisfiers” are practically all occurrences happening at a certain point in time, whereas “dissatisfiers” are states, having a certain permanency through time.

The reader can easily satisfy himself as to the truth of this, when he checks the “Analysis of Factors” which Herzberg et al. give in their Appendix II. (Op. cit. pp. 143/146). Restricting ourselves to “first level factors” only (as we have done so far, and as Herzberg does in his later discussions of his theory (Herzberg, 1966), the present author finds in this manner a distribution of “occurrences” against “states” over the “satisfiers” and “dissatisfiers” as given in table 9.2.2.

<table>
<thead>
<tr>
<th>TABLE 9.2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Satisfiers” and “dissatisfiers” as “occurrences” and as “states”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>occurrence</th>
<th>state</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfiers</td>
<td>23</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>dissatisfiers</td>
<td>4</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>49</td>
<td>76</td>
</tr>
</tbody>
</table>

These figures illustrate, we think, what Ewen (1964, p. 162) touches upon: “[Herzberg’s] procedure could have led to biased results. For example, achievement and advancement were found to be satisfiers. It is likely that when these variables are causes of satisfaction, a critical incident will occur (the employee finishes a difficult job or he is promoted). However, it is difficult to see what incidents would accompany no achievement or not being promoted.”

D. As a fourth distinction we have, of course, the distinction to which Kahn and Vroom & Maier refer and which also concerns the “sampling bias” now under discussion: For “satisfiers” one can praise oneself; for “dissatisfiers” others have to take the blame.

In the free interview situation, the story one tells, the incident one samples out of one’s memory, depends on the role one plays in that story. Subconsciously or perhaps even consciously, the interviewee will be less motivated to remember — and if he

6 Counting need category IIIa, the middlemost of the hierarchy and therefore being neither “high” nor “low”, along with the one case in which the subject could not make a choice.
does remember, to relate — unpleasant incidents for which he himself is to blame; 
he is much more likely to be preoccupied by circumstances outside his control and 
for which he can lay the blame on others. Conversely, he will sooner remember —
and tend to talk about — pleasant things which were brought about by his own actions, 
than pleasant things which are there anyhow.7

Therefore, the factors which Herzberg et al have found as being “satisfiers” or 
“dissatisfiers” are not only “factors related to the doing of the job” versus “factors 
defining the job context”, but they are as clearly factors corresponding to high versus 
low needs, and even more clearly “occurrences” versus “states”, and finally they are 
also factors for which one can praise oneself versus factors for which one can blame 
others.

In our opinion, each of the considerations discussed in this section may 
impair the reliability of Herzberg’s data.

9.2.2 Conflicting data

From about 1965 onwards, studies which follow essentially the original 
Herzberg method and which confirm the original findings (at worst with some 
minor deviations such as those which we discussed in sections 4.3.1.1 and 
4.3.1.3)8 make room for: 1. studies using more modified designs and 2. studies 
which are set up with the express purpose of finding support for, or finding 
contradicting evidence against, the “satisfier/dissatisfier phenomenon”.

Ad 1. Among studies using a modified design, we mention Friedlander (1964), 

Friedlander (1964) asks (in writing) for positive and negative incidents, but then has 
respondents rate 18 factors as to how they are related to these incidents.

7 In this respect, it is of interest to cite an observation made by Friendlander & Wal­
ton (1964, pp. 203 and 205) in a paper in which they report on a Herzberg-type in­
vestigation. After quoting a number of positive statements pertaining to the category 
“Interest in work”, in which the first person singular abounds, the authors note in 
relation to “the negative aspects of the interest-in-the-work category”: “The one 
noticeable difference . . . is the frequent mention of such words as ‘we’, ‘management’, 
and ‘technical program’, rather than the word ‘I’.”

8 Herzberg (1966, pp. 132 ff) treats quite extensively some more investigations which 
all more or less follow the basic method (e.g. Schwartz, Hahn, Gibson); for particulars 
see Herzberg (1966, p. 202/203). We do not agree with Herzberg’s assertion that these 
investigations followed essentially different methods.

Read how Herzberg introduces the investigation by Gibson (op. cit., p. 136/137): 
“considerable variation in method . . . extensive morale survey”. It then turns out that 
the discussion is restricted to two “Herzberg type” questions at the end of the question­
naire. The discussion of the various studies cited by Herzberg is not always as accurate 
as might be wished: e.g. the results by Fantz (which actually are a neat confirmation of 
Maslow’s theory) are cited as confirming the generality of the Motivation-Hygiene 
The study by Halpern (1966) is of interest because the author purports to have found support for the two factor theory, while his questionnaire only covers “best liked jobs”; the negative side of the picture is absent. Obviously, data on positive items only are inconclusive with respect to Herzberg’s theory.9

Wemimont (1966), as part of a study about which we will have more to say presently, has respondents check, out of 12 positive and 12 negative items, the one item which they most readily identify with satisfying and with dissatisfying situations respectively.

The study by Lahiri & Shrivastva (1967) is interesting because, while also using positive and negative items, they applied them to a hypothetical and to the actual job.1 Respondents were asked, as in the Herzberg study, to “think of a time when you felt exceptionally good about your present job either recently or any other time”. (Op. cit., p. 256); likewise for “bad” times. The method deviates from Herzberg’s method in that respondents answered prepared items by checking on a scale.

The results of these four studies have in common that they support Herzberg’s findings to some extent, but also that they show that the factors which Herzberg calls “Motivators” (= “satisfiers”) contribute most to both satisfaction and dissatisfaction.

Ad 2. The studies set up with the express purpose to verify the two factor theory may in turn be divided into two groups, though some studies may be said to belong to both.

One group of studies concentrates on the alleged two-dimensionality of “satisfiers” and “dissatisfiers”, and uses factor analyses (usually Varimax rotation) to do so. Such studies are: Friedlander (1963), Ewen (1964), Ott (1965), Malinovsky & Barry (1965), Burke (1966), Graen (1966b), Bloom & Barry (1967) and Lindsay, Marks & Gorlow (1967).

The general idea behind these studies is that, if aspects of the work situation occur either in a positive direction or in a negative direction, then these two groups of aspects cannot be unidimensional, and therefore they should be independent. Therefore, factor analysis should result in factors consisting of either “Motivators” or “Hygienes”; the two independent types of aspects should never appear in one factor.

The results from the studies cited above are unanimous in that all authors conclude that “Motivators” and “Hygienes” are not independent.2

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9 We find that Hermans (1965, p. 36) makes the same mistake: he supports Herzberg’s data merely because “The job satisfaction . . . results mainly from the task-intrinsic elements of the job”. (Translated by the present author).

1 Notwithstanding this obvious similarity to our design, a comparison between their findings and corresponding ones in the present study is less useful because of insufficient information about the avoidance of mutual influence between positive and negative item scores, about the sequence of administration of the various instruments, etc.

2 In complete accord with this conclusion are also the data which Schaffer (1953) produces (table 3.2.2c); factors which Herzberg would call “Motivators” and “Hygienes” correlate negatively, but they do correlate.
The second group which may be distinguished among the studies set up to verify the Herzberg theory, concentrates on the relative importance of various factors of the work situation for general job satisfaction. Some we also came across in the previous group; in toto, we cite Ott (1965), Ewen, Smith, Hulin & Locke (1966), Graen (1966a, 1968), Wernimont (1966), Burke (1966), Hulin & Smith (1967), Hinrichs & Mischkind (1967), Dunnette, Campbell & Hakel (1967) and Graen & Hulin (1968).

Although various methods were used in these studies, and results are not always unambiguous, the general conclusion is that it is not the “Motivators” which are uniquely related to satisfaction, and “Hygienes” to dissatisfaction, but that the “Motivators” (which are, in fact, the factors corresponding to the higher needs) are most important both for satisfaction and for dissatisfaction.

One special remark is due on the paper by Wernimont (1966). We have cited this study first as using a method which was merely a slight modification of the Herzberg method, resulting in a mild support for the Herzberg findings; now we cite this same study among those which use a different method and which come to negative conclusions with respect to Herzberg’s theory. The technique which Wernimont applied was to incorporate both procedures into one study (with the same subjects), by which he succeeded in showing that “the techniques used ... for eliminating the suspected sources of bias had a substantial effect on the obtained results”. (Op. cit., p. 46).  

We wish to round off this short review of the pro and con Herzberg literature by citing just one more publication which surprisingly is only mentioned by Vroom (1964, p. 128). This is the widely known review of the research literature on job attitudes by Herzberg, Mausner, Peterson & Capwell (1957, p. 48), the results of which were the reason for undertaking the 1959 study. A compilation of the results from 15 studies, including over 28,000 employees, clearly shows operating as “satisfiers” such “Hygienes” as: “security” and “company and management”, while “opportunity for advancement”, allegedly a “Motivator”, turns out to be a clear “dissatisfier”, and “wages” is an extreme

3 Incidentally, Wernimont (1966) is the only study which is cited by Herzberg (1966) as going against the Motivation-Hygiene Theory. In our opinion, this doctoral dissertation is not treated in accordance with the usage of scientific controversy, as is illustrated by such terminology as: “painful illustration of ... naivete” (op. cit. p. 146), “labyrinthine method” (p. 150), “the majority of the items were of this wishy-washy sort” (p. 151) and “he chose to interpret” (ibid.). Herzberg (ibid.) objects that “while the directions are for a specific job event, the items in the questionnaire are in the present tense and become nothing more than a present morale survey”. One would be inclined to say that such an explanation of the failure of the Wernimont study to produce Herzberg-type results is in itself an indication that these results are method bound. We agree with Geleman (1967, p. 214) — who earlier had acclaimed the original Herzberg et al study (9.2) — and Hulin (1966, p. 436) that Herzberg’s attitude is that of a defendant of a beleaguered position.
dissatisficer here. The other factors reported on in this respect ("intrinsic aspects of the job", "supervision", "social aspects of the job" and "working conditions") all act as "satisfiers" and as "dissatisfiers" to an equal degree.

One wonders why these results are not quoted by Herzberg when he discusses the Motivation-Hygiene Theory.\textsuperscript{4}

Our treatment of all the above-mentioned studies has been admittedly superficial, since so many excellent and thorough reviews are already available;\textsuperscript{5} on the other hand, the necessity was there to appraise critically research evidence which turned out to be so squarely in disagreement with our own.

We conclude that the "satisfier/dissatisfier phenomenon" is bound to the particular method used by Herzberg, while studies using other methods support, in general, our final conclusion with respect to the relative greater strength of the higher needs.

9.3 \textit{McGregor et al}

The theories of which Kuylaars (1951) in the Netherlands, and Drucker (1954), Argyris (1957) and McGregor (1960) in the United States are generally cited as protagonists, have been mentioned in this monograph only in passing, as it were, and have not been formally incorporated into the theorizing. Consequently, no hypothesis had been formulated which took account of these theories, and the discussion of our results in relation to them shall therefore be discursive only. For the sake of brevity we shall here simply refer to "McGregor \textit{et al}" when referring to management philosophies which stress the desirability of a work situation which satisfies the worker’s needs for recognition, self-actualization and so on.

\textsuperscript{4} The same question might be asked with respect to another paper by Herzberg (1954), which we mentioned earlier (8.4.2).

This paper reports on the results of a content analysis of free comments which respondents could add to items in a morale survey. It turned out that some items gave rise more to positive than to negative comments, while for others it was the other way around. A clear case of "satisfiers" and "dissatisfiers", we would think, and this time obtained by a different method. Even so, Herzberg (1966) does not mention this, his own, paper anywhere. It is to be regretted that the nature of the two groups of items cannot be identified.

\textsuperscript{5} Behling, Labovitz & Kosmo (1968), Burke (1966), Dunnette, Campbell & Hakel (1967), Winslow & Whitsett (1968). We have also ignored in these pages the House & Wigdor \textit{versus} Winslow & Whitsett controversy which, however, should not be missed by the interested reader. See House & Wigdor (1967); Whitsett & Winslow (1967), Winslow & Whitsett (1968), House & Wigdor (1968). On preparing the present manuscript for the press, we came across a paper by Kaplan, Tausky & Bolaria (1969) in which the literature \textit{pro} and \textit{contra} the Motivation-Hygiene Theory is summed up extensively, and where Maslow’s need hierarchy is taken as a point of departure.
As we have seen, Maslow (2.7), and others as well (e.g. Strauss (1963) and Friedlander (1965), 4.4) are doubtful as to this kind of stress on higher need gratification: Maslow points to various sorts of individuals who cannot take responsibility, who have no use for possibilities for growth (neurotics, authoritarians, those “reduced to the concrete”), while Friedlander hints that all this idealism might merely be the views of scholarly people in whom these higher needs are strong and who project them on others who actually couldn’t care less.

From our general conclusion (fig. 8.6.2) it follows that, for the lowest occupational level we have studied, the higher needs are at least as strong as they are for the highest level studied. So far, McGregor et al are right; Maslow’s and Friedlander’s doubts would seem to be unfounded.

But there remains, of course, the question as to the relative fulfilment, in the actual work situation, of these needs.

Thanks to the fact that we have taken care to construct the instruments $\beta$ and $\gamma$ in such a way that data obtained with them may be directly compared, we are now able to gain an impression of the relative degree to which the various need categories are actually fulfilled. We must realize, however, that it cannot be much more than an impression.

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**Fig. 9.3.1**
Comparison of $\beta$- and $\gamma$-scores, level 0 ($n = 245$) and level 3 ($n = 243$)
Fig. 9.3.1 represents the $\beta$- and $\gamma$-profiles (fig. 8.3.1.1 and fig. 8.5.1.1) drawn into one graph, for level 0 and level 3 separately.

Three things are readily apparent from these two graphs. 1) Both for level 0 and for level 3, between which the lower needs differed considerably in strength (fig. 8.3.1.1), these lower needs seem to be pretty well fulfilled. This is not surprising, since it corroborates our finding that the higher needs are stronger than the lower needs; the prerequisite for the higher needs to be stronger is, precisely, that the more prepotent lower needs be reasonably well fulfilled.

The "trouble" seems to be with the higher needs and, as far as we can judge, McGregor et al are still right: 2) the discrepancies between the strength of a need and its relative fulfilment are found in particular for the higher needs. But to this a third observation must be added: 3) this discrepancy for the higher needs is no greater for level 3 than it is for level 0.

When the insufficient gratification of the higher needs in the work situation is discussed, this is usually done with the understanding that one is referring to the lower occupational levels in particular; now we see that — at least for the levels we have studied — no such restriction is warranted; also our highest occupational level could apparently do with more self-esteem and self-actualization. But here our finding regarding the "folklore" (8.2) comes in: people tend to overlook the fact that the higher needs are as strong for the lower levels as they are for the higher levels, and now we must add that they are also equally frustrated for both levels.

9.4 PRACTICAL CONSEQUENCES

It is both difficult and dangerous to sum up in a nutshell the consequences which the findings of a study, such as the one reported on here, would have for the practical situation in which the reader may find himself. It is a difficult task because we have gradually built up a picture in which all the various aspects more or less influence a correct understanding of what it is all about; it is a dangerous undertaking since, for this same reason, "practical consequences" are easily misinterpreted and — possibly — misused. This is precisely why we have stated (in the Introduction) that, ideally, a research report should be read by the individuals who intend to make use of its findings, in order that they themselves may be able to judge the relative merits, in their own particular situation, of conclusions drawn on the basis of these findings.

The closing lines of the previous section contain perhaps the most direct practical consequences of our study. As far as our restricted sampling will allow (7.5), we would conclude that workers in Western industry today are

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6 To the least extent, perhaps, the needs for security, especially for level 0 (?!)
frustrated in their higher needs, while the general tendency seems to be not to realize that also the lower levels have such needs. The preoccupation of the management theorists with the relative frustration of the higher needs for the lower occupational levels seems warranted; laymen tend not to realize that for the lower levels these higher needs are at least equally strong as they are for the higher levels, and hence that frustration of these higher needs may have serious consequences for the motivated behaviour of these lower levels.

On the other hand, the management theorists, for all their stressing of the need frustrations of the lower levels, seem to forget that, as far as this need frustration is concerned, the higher levels are no better off than the lower levels in our sample. This would mean that, if we talk of “job enrichment” as a means of catering to the higher needs by broadening the scope of the work (through the inclusion of planning and control functions), it will be wise to realize that the higher occupational levels seem to need some kind of job enlargement just as much as the lower levels do.

It is of some consequence that we have found that the lower needs become stronger — and hence, apparently, are fulfilled to a lesser extent — the lower in the occupational hierarchy we go; there is even reason to believe that for still lower levels as were represented in our samples, this may actually mean that the lower needs are still stronger — and hence more important for the motivated behaviour — than the higher needs. For these levels, Maslow’s and Friedlander’s doubts may still be quite justified.

In section 2.7 we discussed at length the reasons which Maslow gives for advocating a type of management which helps individuals to develop towards greater psychological health; the pages which preceded that section have made it clear that the way to attain this would be by acting discriminatingly: with respect to the lower levels it may still mean fulfilling the lower, more prepotent needs. We have stressed Maslow’s opinion that all this is a matter of responsibility of management towards the workers and towards society as a whole.

In the meantime it should be understood that what we think this study has accomplished, namely, to show that Maslow’s theory of motivation is applicable to the work situation, has another very direct and practical consequence. By interpreting the factors which play a role in the work situation (or which should do so!) in terms of Maslow’s dynamically related categories, we interpret that situation in terms of a theoretical model which makes it possible to understand it and consequently to manipulate it. There is no need to be shocked by the use of the word “to manipulate” in this context, not even in connection with that aspect of the work situation which — possibly to the reader’s surprise and impatience — has hitherto not been referred to anywhere in the previous pages: we mean the “dependent variable” productivity. Quite reasonably, productivity might be considered to be the single most important variable of the work
The reader might feel unsatisfied because in the present study no attempt was made to establish the productivity of the subjects and to relate this variable to the factors of the work situation.

There is one good reason why this was not done: it is very difficult, if not impossible, to obtain adequate approximations for productivity because it has so many short range and long range aspects, of which hourly output, creative ideas, turnover, absenteeism and waste are only a few; also, one would probably arrive at different criteria for different types of job and for different occupational levels, which, in turn, would make it impracticable to compare the productivity of various individuals. But apart from such practical considerations, productivity was neglected in the study for a theoretical reason: even when relationships between certain situational variables and (certain aspects of) productivity could be established, such results must remain strictly incidental since no generalizations can be attempted due to lack of a theoretical model; at best it would have been possible to construct a theoretical model on the basis of such results, which then would have to be verified by means of another investigation.

The point is that a theory of motivation, precisely because it is a theory of motivation, does provide such a model and indeed in such a manner that the need for establishing productivity as a variable disappears; productivity is, as a dependent variable, automatically part of the picture. Once we know how to "translate" the factors of a situation into the (categories of) basic needs of the individuals in that situation, we can begin to understand how to structure it in such a manner that it will be a productive situation; the individuals in a situation will be productive — "productive" to be understood in the widest sense of the word! — if by being productive they fulfil their basic needs. This is what Maslow calls a synergic situation; our study must be considered as a modest step towards an understanding of how the industrial situation might be structured in order to become an optimal situation, in this sense, for everybody concerned.

Further research is indicated, specifically with the inclusion of occupational-hierarchical levels which the present study did not cover; also, comparative cross-cultural studies of need profiles might add considerably to a further validation of Maslow's theory.7

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7 As already mentioned in section 8.7.2.3 we have, with an eye on future use, designed an improved instrument on the basis of a factor analysis which included the training items. Readers who would consider using the instruments are invited to contact the author through the publisher.
Bibliography
The date immediately following the author's name identifies the reference in the text and indicates the year of first publication.

Page numbers refer to the edition indicated by the date which follows the name of the publisher or the periodical.

Italicized numbers in parentheses refer to the sections of the present text in which the reference is being discussed.


Herzberg, F., Mausner, B. & Snyderman, B. (Herzberg et al, 1959). *The motivation to work*. New York: Wiley/London: Chapman & Hall, 1959. (5.4, 3.4, 4.1, 4.2.1, 4.2.2, 4.3.1.3, 4.3.2.4, 4.4, 5.3, 8.3.3, 9.1.6, 9.2, 9.2.1).


*Maslow, A. H. (1954). Motivation and personality. New York: Harper, 1954. (Intr., 1.2, 1.2.1, 1.2.2, 1.3, 1.4, 1.5, 1.5.1.1, 1.5.1.2, 1.5.1.3, 1.5.1.4, 1.5.2, 1.5.3, 1.5.4, 1.6.1, 1.6.3, 2.1, 2.2, 2.4.1, 2.4.2, 2.4.2.1, 2.4.2.2, 2.4.2.3, 2.4.2.4, 2.4.2.5, 2.4.2.6, 2.6, 2.6.1, 2.7, 3.2, 3.4, 4.1, 4.2.1, 6.2, 8.4.1).*

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Maslow, A. H. (1962b). Toward a psychology of being. Princeton/Toronto/London: Van Nostrand, 1962. (1.3, 1.6.1, 1.6.2, 2.4.1, 2.4.2, 2.4.2.1, 2.4.2.3, 2.5, 2.6.2, 2.6.3, 4.1).


Appendices
For a ... it is pleasant ....

<table>
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<tr>
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<th>I</th>
<th>IIa</th>
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<tbody>
<tr>
<td>1</td>
<td>...if he learns more and more from his work.</td>
<td>...if his work gives him the feeling that he really has abilities.</td>
<td>...if he enjoys a certain measure of prestige.</td>
<td>...if he really likes his colleagues.</td>
<td>...if he feels that his colleagues consider him to be a &quot;decent fellow&quot;.</td>
<td>...if he knows that in case of trouble he can rely on his boss.</td>
<td>...if he has favourable working hours.</td>
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<tr>
<td>2</td>
<td>...if the development of his capacities is not stunted.</td>
<td>...if he does not lack self-confidence.</td>
<td>...if he does not suffer from lack of appreciation for his work.</td>
<td>...if he has no unpleasant colleagues.</td>
<td>...if the people with whom he works do not dislike him.</td>
<td>...if, in his work, he is not subject to perpetual changes.</td>
<td>...if his work is not very tiring.</td>
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<tr>
<td>3</td>
<td>...if the work gets from him the best that he is capable of doing.</td>
<td>...if he has the feeling that he is doing a useful job.</td>
<td>...if he can easily get others to do what he thinks is necessary.</td>
<td>...if he respects the people with whom he works.</td>
<td>...if he has to do with people who rather like him.</td>
<td>...if he always has a general idea beforehand about the kind of work he will be given.</td>
<td>...if the place(s) where and/or the things with which he works, are clean and tidy.</td>
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<tr>
<td>4</td>
<td>...if his capabilities and potentialities are not left unused.</td>
<td>...if he does not consider himself to be inferior to people with whom he should wish to compare himself.</td>
<td>...if he does not suffer from lack of recognition for what he is worth.</td>
<td>...if he does not like the people with whom he works.</td>
<td>...if he does not have to work on his own.</td>
<td>...if he is not in danger of being treated with injustice.</td>
<td>...if he does not have to travel a long way to and from his work.</td>
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For a ... it is unpleasant ....

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<tbody>
<tr>
<td>1</td>
<td>...if he does not learn more and more from his work.</td>
<td>...if his work does not give him the feeling that he really has abilities.</td>
<td>...if he does not enjoy a certain measure of prestige.</td>
<td>...if he does not really like his colleagues.</td>
<td>...if he feels that his colleagues do not consider him to be a &quot;decent fellow&quot;.</td>
<td>...if he does not know whether in case of trouble he can rely on his boss.</td>
<td>...if he does not have favourable working hours.</td>
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<tr>
<td>2</td>
<td>...if the development of his capacities is stunted.</td>
<td>...if he lacks self-confidence.</td>
<td>...if he suffers from lack of appreciation for his work.</td>
<td>...if he has unpleasant colleagues.</td>
<td>...if the people with whom he works dislike him.</td>
<td>...if, in his work, he is subject to perpetual changes.</td>
<td>...if his work is very tiring.</td>
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<td>3</td>
<td>...if the work does not get from him the best that he is capable of doing.</td>
<td>...if he has the feeling that he is not doing a useful job.</td>
<td>...if he cannot easily get others to do what he thinks is necessary.</td>
<td>...if he does not respect the people with whom he works.</td>
<td>...if he has to do with people who do not like him.</td>
<td>...if he does not always have a general idea beforehand about the kind of work he will be given.</td>
<td>...if the place(s) where and/or the things with which he works, are not clean and tidy.</td>
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<td>4</td>
<td>...if his capabilities and potentialities are left unused.</td>
<td>...if he considers himself to be inferior to people with whom he should wish to</td>
<td>...if he suffers from lack of recognition for what he is worth.</td>
<td>...if he dislikes the people with whom he works.</td>
<td>...if he has to work on his own.</td>
<td>...if he is in danger of being treated with injustice.</td>
<td>...if he has to travel a long way to and from his work.</td>
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I would consider a job pleasant ...

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<td>...where my work would give me the feeling that I really have abilities.</td>
<td>...where I would enjoy a certain measure of prestige.</td>
<td>...where I would really like my colleagues.</td>
<td>...where I would feel that my colleagues considered me to be a &quot;decent fellow&quot;.</td>
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<td>...where the development of my capacities would not be stunted.</td>
<td>...where I would not lack self-confidence.</td>
<td>...where I would not suffer from lack of appreciation for my work.</td>
<td>...where I would have no unpleasant colleagues.</td>
<td>...where the people with whom I worked would not dislike me.</td>
<td>...where, in my work, I would not be subject to perpetual changes.</td>
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<td>3</td>
<td>...where the work would get from me the best that I am capable of doing.</td>
<td>...where I would have the feeling that I was doing a useful job.</td>
<td>...where I could easily get others to do what I thought was necessary.</td>
<td>...where I would respect the people with whom I worked.</td>
<td>...where I would have to do with people who rather liked me.</td>
<td>...where I would always have a general idea beforehand about the kind of work I was given.</td>
<td>...where the place(s) where and/or the things with which I would work, would be clean and tidy.</td>
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<td>4</td>
<td>...where my capabilities and potentialities would not be left unused.</td>
<td>...where I would not consider myself to be inferior to people with whom I should wish compare myself.</td>
<td>...where I would not suffer from lack of recognition for what I am worth.</td>
<td>...where I would not dislike the people with whom I worked.</td>
<td>...where I would not have to work on my own.</td>
<td>...where I would not be in danger of being treated with injustice.</td>
<td>...where I would not have to travel a long way to and from my work.</td>
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...where the work would get from me the best that I am capable of doing.
...where I could easily get others to do what I thought was necessary.
...where I would respect the people with whom I worked.
...where I would have to do with people who rather liked me.
...where I would always have a general idea beforehand about the kind of work I was given.
...where the place(s) where and/or the things with which I would work, would be clean and tidy.
...where I would not be in danger of being treated with injustice.
...where I would not have to travel a long way to and from my work.

I would consider a job unpleasant ...

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<td>...where I would not enjoy a certain measure of prestige.</td>
<td>...where I would not really like my colleagues.</td>
<td>...where I would feel that my colleagues did not consider me to be a &quot;decent fellow&quot;.</td>
<td>...where I would not know whether, in case of trouble, I could rely on my boss.</td>
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<td>...where I would have to do with people who did not like me.</td>
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<td>...that I really like my colleagues.</td>
<td>...that I feel that my colleagues consider me to be a &quot;decent fellow&quot;.</td>
<td>...that I know that in case of trouble I can rely on my boss.</td>
<td>...that I have favourable working hours.</td>
</tr>
<tr>
<td>2</td>
<td>...that the development of my capacities is not stunted.</td>
<td>...that thanks thereto I do not lack self-confidence.</td>
<td>...that I do not suffer from lack of appreciation for my work.</td>
<td>...that I have no unpleasant colleagues.</td>
<td>...that the people with whom I work do not dislike me.</td>
<td>...that, in my work, I am not subject to perpetual changes.</td>
<td>...that my work is not very tiring.</td>
</tr>
<tr>
<td>3</td>
<td>...that the work gets from me the best that I am capable of doing.</td>
<td>...that I have the feeling that I am doing a useful job.</td>
<td>...that I can easily get others to do what I think is necessary.</td>
<td>...that I respect the people with whom I work.</td>
<td>...that I have to do with people who rather like me.</td>
<td>...that I always have a general idea beforehand about the kind of work I will be given.</td>
<td>...that the place(s) where and/or the things with which I work, are clean and tidy.</td>
</tr>
<tr>
<td>4</td>
<td>...that my capabilities and potentialities are not left unused.</td>
<td>...that I do not consider myself to be inferior to people with whom I should wish to compare myself.</td>
<td>...that I do not suffer from lack of recognition for what I am worth.</td>
<td>...that I do not dislike the people with whom I work.</td>
<td>...that I do not have to work on my own.</td>
<td>...that I am not in danger of being treated with injustice.</td>
<td>...that I do not have to travel a long way to and from my work.</td>
</tr>
</tbody>
</table>

**APPENDIX 3: 7 - items (English)**

- In my actual job I find it pleasant ....
- In my actual job I find unpleasant ....
<table>
<thead>
<tr>
<th>I</th>
<th>Voor een .... is het prettig ..........</th>
<th>IIa</th>
<th>IIb</th>
<th>IIIa</th>
<th>IIIb</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...als hij van zijn werk steeds meer leert.</td>
<td>...als zijn werk hem, voor zichzelf, het gevoel geeft dat hij werkelijk iets kan.</td>
<td>...als hij een zeker prestige geniet.</td>
<td>...als hij zijn collega's graag mag.</td>
<td>...als hij voel dat zijn collega's hem een &quot;geschikte kerel&quot; vinden.</td>
<td>...als hij weet dat zijn chef bij moeilijkheden achter hem zal staan.</td>
<td>...als hij gunstige werktijden heeft.</td>
</tr>
<tr>
<td>2</td>
<td>...als de ontplooiing van zijn capaciteiten niet geremd wordt.</td>
<td>...als hij geen gebrek aan zelfvertrouwen heeft.</td>
<td>...als het hem niet ontbreekt aan waarde voor zijn werk.</td>
<td>...als hij geen verveelende collega's heeft.</td>
<td>...als de mensen waarmee hij samenwerkt geen hekel aan hem hebben.</td>
<td>...als hij in z'n werk niet bloot staat aan voortdurende veranderingen.</td>
<td>...als zijn werk niet erg vermoeiend is.</td>
</tr>
<tr>
<td>3</td>
<td>...als het werk het beste uit hem haalt waar hij toe in staat is.</td>
<td>...als hij voor zichzelf het gevoel heeft dat hij nuttig werk doet.</td>
<td>...als hij anderen er gemakkelijk toe kan krijgen om te doen wat hij nodig vindt.</td>
<td>...als hij respect heeft voor de mensen waar hij mee werkt.</td>
<td>...als hij met mensen te maken heeft die hem graag mogen.</td>
<td>...als hij steeds van te voren ongeveer weet wat voor werk hij opgedragen zal krijgen.</td>
<td>...als de plaats(en) waar en/of de dingen waarmee hij werkt, schoon en ordelijk zijn.</td>
</tr>
<tr>
<td>4</td>
<td>...als de kundigheden en mogelijkheden die in hem zitten, niet ongebruikt blijven.</td>
<td>...als hij zichzelf niet minder waardevol dan de mensen waarmee hij zich zou willen vergelijken.</td>
<td>...als het hem niet ontbreekt aan erkenning voor wat hij waard is.</td>
<td>...als hij geen hekel heeft aan de mensen waar hij mee werkt.</td>
<td>...als hij niet op z'n alleentje hoeft te werken.</td>
<td>...als hij niet de kans loopt om onrechtvaardig behandeld te worden.</td>
<td>...als hij niet lang onderweg is om en naar zijn werk te komen.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
<th>Voor een .... is het vervelend ..........</th>
<th>IIa</th>
<th>IIb</th>
<th>IIIa</th>
<th>IIIb</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...als hij van zijn werk niet steeds meer leert.</td>
<td>...als zijn werk hem, voor zichzelf, niet het gevoel geeft dat hij werkelijk iets kan.</td>
<td>...als hij niet een zeker prestige geniet.</td>
<td>...als hij zijn collega's niet graag mag.</td>
<td>...als hij voel dat zijn collega's hem geen &quot;geschikte kerel&quot; vinden.</td>
<td>...als hij niet weet of zijn chef bij moeilijkheden achter hem zal staan.</td>
<td>...als hij geen gunstige werktijden heeft.</td>
</tr>
<tr>
<td>2</td>
<td>...als de ontplooiing van zijn capaciteiten geremd wordt.</td>
<td>...als hij gebrek aan zelfvertrouwen heeft.</td>
<td>...als het hem ontbreekt aan waardering voor zijn werk.</td>
<td>...als hij vervalend collega's heeft.</td>
<td>...als de mensen waarmee hij samenwerkt een hekel aan hem hebben.</td>
<td>...als hij in z'n werk bloot staat aan voortdurende veranderingen.</td>
<td>...als zijn werk erg vermoeiend is.</td>
</tr>
<tr>
<td>3</td>
<td>...als het werk niet het beste uit hem haalt waar hij toe in staat is.</td>
<td>...als hij voor zichzelf het gevoel heeft dat hij geen nuttig werk doet.</td>
<td>...als hij anderen er niet gemakkelijk toe kan krijgen om te doen wat hij nodig vindt.</td>
<td>...als hij geen respect heeft voor de mensen waar hij mee werkt.</td>
<td>...als hij met mensen te maken heeft die hem niet graag mogen.</td>
<td>...als hij niet steeds van te voren ongeveer weet wat voor werk hij opgedragen zal krijgen.</td>
<td>...als de plaats(en) waar en/of de dingen waarmee hij werkt, niet schoon en ordelijk zijn.</td>
</tr>
</tbody>
</table>
| 4 | ...als de kundigheden en mogelijkheden die in hem zitten, ongebruikt blijven. | ...als hij zichzelf minder waardevol voelt dan de mensen waarmee hij zich zou willen vergelijken. | ...als het hem ontbreekt aan erkenning voor wat hij waard is. | ...als hij een hekel heeft aan de mensen waar hij mee werkt. | ...als hij op z'n alleentje hoeft te werken. | ...als hij de kans loopt om onrechtvaardig behandeld te worden. | ...als hij lang onderweg is om en naar zijn werk te komen.
<table>
<thead>
<tr>
<th>I</th>
<th>IIₐ</th>
<th>IIₜ</th>
<th>IIIₐ</th>
<th>IIIₜ</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...waar ik van mijn werk steeds meer zou leren.</td>
<td>...waar het werk me, voor mezelf, het gevoel zou geven dat ik werkelijk iets kan.</td>
<td>...waar ik een zeker prestige zou genieten.</td>
<td>...waar ik mijn collega's graag mocht.</td>
<td>...waar ik zou voelen dat mijn collega's me een &quot;geschikte kerel&quot; vonden.</td>
<td>...waar ik zou weten dat m'n chef bij moeilijkheden achter me zou staan.</td>
</tr>
<tr>
<td>2</td>
<td>...waar de ontplooiing van m'n capaciteiten niet geremd zou worden.</td>
<td>...waar ik geen gebrek aan zelfvertrouwen zou hebben.</td>
<td>...waar het me niet zou onttrekken aan waardering voor m'n werk.</td>
<td>...waar ik geen vervelende collega's zou hebben.</td>
<td>...waar de mensen waarmee ik zou samenwerken geen hekel aan me zouden hebben.</td>
<td>...waar ik in m'n werk niet bloot zou staan aan voortdurende veranderingen.</td>
</tr>
<tr>
<td>3</td>
<td>...waar het werk het beste uit me zou halen waar ik toe in staat ben.</td>
<td>...waar ik voor mezelf het gevoel zou hebben dat ik nuttig werk deed.</td>
<td>...waar ik anderen er gemakkelijk toe zou kunnen krijgen om te doen wat ik nodig zou vinden.</td>
<td>...waar ik respect zou hebben voor de mensen waar ik mee werkte.</td>
<td>...waar ik steeds van te voren ongeveer zou weten wat voor werk ik opgedragen krijg.</td>
<td>...waar de plaats(en) waar en/of de dingen waarmee ik zou werken schoon en ordelijk zouden zijn.</td>
</tr>
<tr>
<td>4</td>
<td>...waar de kundigheden en mogelijkheden die in me zitten, ongebruikt zouden blijven.</td>
<td>...waar ik me zou willen veraken.</td>
<td>...waar ik een zeker hekel zou hebben aan de mensen waar ik mee werk.</td>
<td>...waar ik op m'n alleentje zou moeten werken.</td>
<td>...waar ik de kans zou lopen om onrechtvaardig behandeld te worden.</td>
<td>...waar ik geen nuttig werk aan m'n chef zou hebben.</td>
</tr>
</tbody>
</table>

---

**APPENDIX 5: β-items (Dutch)**

<table>
<thead>
<tr>
<th>I</th>
<th>IIₐ</th>
<th>IIₜ</th>
<th>IIIₐ</th>
<th>IIIₜ</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...waar ik van mijn werk niet steeds meer zou leren.</td>
<td>...waar het werk me, voor mezelf, niet het gevoel zou geven dat ik werkelijk iets kan.</td>
<td>...waar ik niet een zeker prestige zou genieten.</td>
<td>...waar ik mijn collega's niet graag mocht.</td>
<td>...waar ik niet zou weten of m'n chef bij moeilijkheden achter me zou staan.</td>
<td>...waar ik geen gunstige werktijden zou hebben.</td>
</tr>
<tr>
<td>2</td>
<td>...waar de ontplooiing van m'n capaciteiten geremd zou worden.</td>
<td>...waar ik gebrek aan zelfvertrouwen zou hebben.</td>
<td>...waar het me zou onttrekken aan waardering voor mijn werk.</td>
<td>...waar ik vervelende collega's zou hebben.</td>
<td>...waar ik in mijn werk bloot zou staan aan voortdurende veranderingen.</td>
<td>...waar mijn werk erg vermoeiend zou zijn.</td>
</tr>
<tr>
<td>3</td>
<td>...waar het werk niet het beste uit me zou halen waar ik toe in staat ben.</td>
<td>...waar ik voor mezelf het gevoel zou hebben dat ik geen nuttig werk deed.</td>
<td>...waar ik anderen er niet gemakkelijk toe zou kunnen krijgen om te doen wat ik nodig zou vinden.</td>
<td>...waar ik geen hekel zou hebben aan de mensen waar ik mee werkte.</td>
<td>...waar ik niet steeds van te voren ongeveer zou weten wat voor werk ik opgedragen krijg.</td>
<td>...waar de plaats(en) waar en/of de dingen waarmee ik zou werken niet schoon en ordelijk zouden zijn.</td>
</tr>
<tr>
<td>4</td>
<td>...waar de kundigheden en mogelijkheden die in me zitten, ongebruikt zouden blijven.</td>
<td>...waar ik me zou willen veraken.</td>
<td>...waar ik een zeker hekel zou hebben aan de mensen waar ik mee werk.</td>
<td>...waar ik op m'n alleentje zou moeten werken.</td>
<td>...waar ik de kans zou lopen om onrechtvaardig behandeld te worden.</td>
<td>...waar ik lang onderweg zou zijn om van en naar mijn werk te komen.</td>
</tr>
</tbody>
</table>
In mijn huidige werk vind ik het prettig ...

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>IIa</th>
<th>IIb</th>
<th>IIIa</th>
<th>IIIb</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...dat ik van mijn werk steeds meer leer.</td>
<td>...dat het werk me, voor mezelf, het gevoel geeft dat ik welkeliijk iets kan.</td>
<td>...dat ik een zeker prestige geniet.</td>
<td>...dat ik mijn collega's graag mag.</td>
<td>...dat ik voel dat mijn collega's me een &quot;geschikte kezel&quot; vinden.</td>
<td>...dat ik weet dat m'n chef bij moeilijkheden achter me zal staan.</td>
<td>...dat ik gunstige werktijden heb.</td>
</tr>
<tr>
<td>2</td>
<td>...dat de ontlooiing van mijn capaciteiten niet geremd wordt.</td>
<td>...dat ik daarin geen gebrek aan zelfvertrouwen heb.</td>
<td>...dat het me niet ontbreekt aan waardering voor mijn werk.</td>
<td>...dat ik geen verveelende collega's heb.</td>
<td>...dat de mensen waarmee ik samenwerk geen hekel aan me hebben.</td>
<td>...dat ik in mijn werk niet bloot staan aan voortdurende veranderingen.</td>
<td>...dat mijn werk niet erg vermoeiend is.</td>
</tr>
<tr>
<td>3</td>
<td>...dat het werk het beste uit me haalt waar ik toe in staat ben.</td>
<td>...dat ik voor mezelf het gevoel heb dat ik nuttig werk doe.</td>
<td>...dat ik anderen er gemakkelijk toe kan krijgen om te doen wat ik nodig vind.</td>
<td>...dat ik respect heb voor de mensen waar ik mee werk.</td>
<td>...dat ik met mensen te maken heb die me graag mogen.</td>
<td>...dat ik steeds van voren ongeveer weet wat voor werk ik opgedragen zal krijgen.</td>
<td>...dat de plaats(en) waar en/of de dingen waarmee ik werk, schoon en ordelijk zijn.</td>
</tr>
<tr>
<td>4</td>
<td>...dat de kundigheden en mogelijkheden die in me zitten, niet ongebruikt blijven.</td>
<td>...dat ik mezelf niet minder waard voel dan de mensen waaralke ik me zou willen vergelijken.</td>
<td>...dat het me niet ontbreekt aan erkenning voor wat ik waard ben.</td>
<td>...dat ik geen hekel heb aan de mensen waar ik mee werk.</td>
<td>...dat ik niet op mijn alleentje hoeft te werken.</td>
<td>...dat ik niet de kans loop om onrechtvaardig behandeld te worden.</td>
<td>...dat ik niet lang onderweg ben om van en naar mijn werk te komen.</td>
</tr>
</tbody>
</table>

In mijn huidige werk vind ik het vervelend ...

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>IIa</th>
<th>IIb</th>
<th>IIIa</th>
<th>IIIb</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...dat ik van mijn werk niet steeds meer leer.</td>
<td>...dat het werk me, voor mezelf, niet het gevoel geeft dat ik welkeliijk iets kan.</td>
<td>...dat ik niet een zeker prestige geniet.</td>
<td>...dat ik mijn collega's niet graag mag.</td>
<td>...dat ik voel dat mijn collega's mij geen &quot;geschikte kezel&quot; vinden.</td>
<td>...dat ik niet weet of m'n chef bij moeilijkheden achter me zal staan.</td>
<td>...dat ik geen gunstige werktijden heb.</td>
</tr>
<tr>
<td>2</td>
<td>...dat de ontlooiing van mijn capaciteiten geremd wordt.</td>
<td>...dat ik daarin gebrek aan zelfvertrouwen heb.</td>
<td>...dat het me ontbreekt aan waardering voor mijn werk.</td>
<td>...dat ik vervelende collega's heb.</td>
<td>...dat de mensen waarmee ik samenwerk een hekel aan me hebben.</td>
<td>...dat ik in mijn werk bloot staan aan voortdurende veranderingen.</td>
<td>...dat mijn werk erg vermoeiend is.</td>
</tr>
<tr>
<td>3</td>
<td>...dat het werk niet het beste uit me haalt waar ik toe in staat ben.</td>
<td>...dat ik voor mezelf het gevoel heb dat ik geen nuttig werk doe.</td>
<td>...dat ik anderen er niet gemakkelijk toe kan krijgen om te doen wat ik nodig vind.</td>
<td>...dat ik geen respect heb voor de mensen waar ik mee werk.</td>
<td>...dat ik met mensen te maken heb die me niet graag mogen.</td>
<td>...dat ik niet steeds van te voren ongeveer weet wat voor werk ik opgedragen zal krijgen.</td>
<td>...dat de plaats(en) waar en/of de dingen waarmee ik werk, niet schoon en ordelijk zijn.</td>
</tr>
<tr>
<td>4</td>
<td>...dat de kundigheden en mogelijkheden die in me zitten, ongebruikt blijven.</td>
<td>...dat ik mezelf minder waarvoel dan de mensen waaralke ik me zou willen verbeteren.</td>
<td>...dat het me ontbreekt aan erkenning voor wat ik waard ben.</td>
<td>...dat ik een hekel heb aan de mensen waar ik mee werk.</td>
<td>...dat ik op m'n alleenje moet werken.</td>
<td>...dat ik de kans loop om onrechtvaardig behandeld te worden.</td>
<td>...dat ik lang onderweg ben om van en naar m'n werk te komen.</td>
</tr>
</tbody>
</table>
Each job, each profession has its pleasant aspects; not each of these, however, is of the same importance to everybody.

Let us suppose that you have a choice between a number of jobs; in that case there may be certain things which you would consider to be very important when making your choice, and other things which you would not consider to be so important.

A number of items are mentioned hereunder which you might possibly find pleasant, if they should apply to any particular job.

We should like to know how you would find these things in general.

The next page begins with an example from which you may see what it is all about.
Example

I would consider a job

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td>not so</td>
<td></td>
<td></td>
</tr>
<tr>
<td>important</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

\textbf{How unpleasant would you consider that to be?}

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td>extremely</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

\textbf{not so important} \quad \textbf{pleasant} \quad \textbf{unpleasant} \quad \textbf{extremely *) pleasant unmarried}

\textbf{example: a. \ldots where I would not be treated affably \ldots I would not have the opportunity of helping somebody now and again.}

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

\textbf{b. \ldots where I would not work in healthy surroundings}

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

\textbf{An X in the last/first *) column would mean that you would consider what is stated "extremely pleasant/unpleasant" an X in the middle column would mean that you would consider it merely pleasant/unpleasant, and an X in the first/last *) column would mean that though you would find it unpleasant, you would consider it, compared to other things, "not so important".}

The two marks have been placed in one of the columns merely by way of example; naturally, there are no more or less correct answers. We only ask for your personal opinion.

\textbf{N.B. As you see, you may also choose the 2\textsuperscript{nd} and the 4\textsuperscript{th} column, even though no particular heading has been printed there.}

\textbf{-- What is your opinion about the things which are listed hereunder?}

1. \ldots where I would not have the opportunity of helping somebody now and again.

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

2. \ldots where I would not feel independent.

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

3. \ldots where I would not be succesful in my work.

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

4. \ldots where I would not have a regular pattern of work and life.

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

5. \ldots where I would not know that my colleagues would be unhappy if I left.

\begin{tabular}{ccc}
<table>
<thead>
<tr>
<th></th>
<th>pleasant</th>
<th>unpleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\end{tabular}

\textbf{*) (Note not in the original): For lists B and D, the direction of the scale is reversed throughout.}
I would consider a job pleasant or unpleasant. How pleasant or unpleasant would you consider that to be?

Every job also has its pleasant aspects, but each of these is also not of the same importance to everybody.

A number of things are mentioned hereunder which you might possibly find unpleasant if they should apply to any particular job, which you would consequently choose or not choose.

We should now like to know how pleasant you would consider these things in general.

| 6 | IIb / 3 | 6 | IIb / 3 |
| 7 | IV / 3  | 7 | IIa / 3 |
| 8 | I / 3   | 8 | V / 3   |
| 9 | IIIa / 3| 9 | IIIa / 3|
| 10| V / 3   | 10| I / 3   |
| 11| IIa / 3 | 11| IV / 3  |
| 12| IIIb / 3| 12| IIb / 3 |
I would consider a job unpleasant or pleasant.

How would you consider that to be?

<table>
<thead>
<tr>
<th></th>
<th>not so important</th>
<th>unpleasant pleasant</th>
<th>extremely unpleasant pleasant</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. ...where I would be obliged to perform trivial tasks.</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
<tr>
<td>14. ...where I would know that I would not be confronted with unexpected things.</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
<tr>
<td>15. ...where I would not be bossed around.</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
<tr>
<td>16. ...where by colleagues I would not leave me to fend for myself.</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
<tr>
<td>17. ...where the work would not tax my attention to much.</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
</tbody>
</table>

(A−) | (B+) | (C−) | (D+) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18 Ilb / 2</td>
<td>18 Ilb / 2</td>
<td>18 I1lb / 4</td>
<td>18 Ilb / 4</td>
</tr>
<tr>
<td>19 IV / 2</td>
<td>19 IV / 2</td>
<td>19 I1la / 4</td>
<td>19 I1la / 4</td>
</tr>
<tr>
<td>20 I / 2</td>
<td>20 I / 2</td>
<td>20 V / 4</td>
<td>20 V / 4</td>
</tr>
<tr>
<td>21 I1la / 2</td>
<td>21 I1la / 2</td>
<td>21 I1la / 4</td>
<td>21 I1la / 4</td>
</tr>
<tr>
<td>22 V / 2</td>
<td>22 V / 2</td>
<td>22 I / 4</td>
<td>22 I / 4</td>
</tr>
<tr>
<td>23 I1la / 2</td>
<td>23 I1la / 2</td>
<td>23 IV / 4</td>
<td>23 IV / 4</td>
</tr>
<tr>
<td>24 I1lb / 2</td>
<td>24 I1lb / 2</td>
<td>24 Ilb / 4</td>
<td>24 Ilb / 4</td>
</tr>
</tbody>
</table>
So far we have been concerned with things which might make an imaginary job pleasant or unpleasant for you.

In the same way there are probably things about the job you actually have which make the job pleasant or unpleasant for you.

Can you indicate, in the following list of items, how pleasant or unpleasant they are in your job?

In my actual job I find it pleasant unpleasant...

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(A+)</td>
<td>(B-)</td>
<td>(C+)</td>
<td>(D-)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IIIb / 1</td>
<td>1</td>
<td>IIb / 3</td>
<td>1</td>
<td>IIb / 3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>IIa / 1</td>
<td>2</td>
<td>IV / 3</td>
<td>2</td>
<td>IV / 3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>V / 1</td>
<td>3</td>
<td>I / 3</td>
<td>3</td>
<td>I / 3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>IIIa / 1</td>
<td>4</td>
<td>IIIa / 3</td>
<td>4</td>
<td>IIIa / 3</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I / 1</td>
<td>5</td>
<td>V / 3</td>
<td>5</td>
<td>V / 3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>IV / 1</td>
<td>6</td>
<td>IIa / 3</td>
<td>6</td>
<td>IIa / 3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>IIb / 1</td>
<td>7</td>
<td>IIIb / 3</td>
<td>7</td>
<td>IIIb / 3</td>
<td></td>
</tr>
</tbody>
</table>
In the job which you actually have, there are probably also a number of things which make the work unpleasant for you.

Can you indicate, about the things which are listed hereunder, how unpleasant these are in your work?

In my actual job I find unpleasant

\[\text{How unpleasant do you consider that to be?}\]

\[\begin{array}{cccc}
\text{does not apply} & \text{unpleasant} & \text{extremely unpleasant} \\
[A^-] & 8 \text{ IIIb / 4} & 8 \text{ IIIb / 4} & 8 \text{ IIIb / 4} \\
9 \text{ IIa / 4} & 9 \text{ IIa / 4} & 9 \text{ IV / 2} & 9 \text{ IV / 2} \\
10 \text{ V / 4} & 10 \text{ V / 4} & 10 \text{ I / 2} & 10 \text{ I / 2} \\
11 \text{ IIIa / 4} & 11 \text{ IIIa / 4} & 11 \text{ IIIa / 2} & 11 \text{ IIIa / 2} \\
12 \text{ I / 4} & 12 \text{ I / 4} & 12 \text{ V / 2} & 12 \text{ V / 2} \\
13 \text{ IV / 4} & 13 \text{ IV / 4} & 13 \text{ IIa / 2} & 13 \text{ IIa / 2} \\
14 \text{ IIIb / 4} & 14 \text{ IIIb / 4} & 14 \text{ IIIb / 2} & 14 \text{ IIIb / 2} \\
\end{array}\]
Finally, please answer the following questions.

1. What do you think of your job as it is at present?

   - very unpleasant
   - rather unpleasant
   - neither pleasant nor unpleasant
   - rather pleasant
   - very pleasant

2. In the past 6 months, have you ever considered looking for other work or finding a job somewhere else?

   - no
   - sometimes
   - often

3. In the past 2 years, have you ever done anything about trying to find another job (e.g. collect information, apply, reply to an advertisement)?

   - no
   - nearly
   - yes

4. How old are you?

   - 15-20
   - 21-25
   - 26-30
   - 31-35
   - 36-40
   - 41-45
   - 46-50
   - 51-55
   - 56-60
   - 61-65
   - older than 65 years
Elke werkring, elk beroep heeft z'n prettige kanten, maar die zijn niet voor iedereen allemaal even belangrijk.

Stel dat U kunt kiezen uit een aantal banen; er kunnen dan bepaalde dingen zijn die U heel erg belangrijk zou vinden bij het maken van Uw keuze, en andere die voor U niet zo zwaar zouden wegen.

Hierachter volgen een aantal dingen die U misschien prettig zou vinden wanneer die zich bij een mogelijke werkring zouden voordoen.

We zouden graag van U willen weten hoe prettig U deze dingen in het algemeen zou vinden.

De volgende pagina begint met een voorbeeld waaraan U kunt zien wat de bedoeling is.
Voorbeeld:

Ik zou een werkkring prettig vinden ...

Hoe prettig zoudt U dat vinden?

<table>
<thead>
<tr>
<th></th>
<th>niet zo belangrijk</th>
<th>prettig</th>
<th>bijzonder prettig</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ... waar je voorkomend wordt behandeld.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>b. ... waar je in een gezonde omgeving werkt.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Een kruisje in het laatste vakje zou dus betekenen dat U het "bijzonder prettig" zou vinden wat er staat, een kruisje in het middelste vakje dat U het gewoon "prettig" zou vinden, en een kruisje in het eerste vakje zou betekenen dat U het op zichzelf wel prettig, maar vergeleken met andere dingen "niet zo belangrijk" zou vinden.

De twee kruisjes zijn maar omwille van het voorbeeld ergens neergeslagen; er bestaan natuurlijk geen goede of minder goede antwoorden. We vragen alleen naar Uw eigen mening.

N.B. U ziet dat U ook het 2e en het 4e vakje kunt kiezen, ook al staat daar niet apart iets bijgedrukt.

--- Wat is Uw mening omtrent de dingen die hieronder staan?

Ik zou een werkkring prettig vinden ...

Hoe prettig zoudt U dat vinden?

<table>
<thead>
<tr>
<th></th>
<th>niet zo belangrijk</th>
<th>prettig</th>
<th>bijzonder prettig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ... waar ik in de gelegenheid zou zijn om eens iets voor een ander te doen.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>2. ... waar ik me onafhankelijk zou voelen.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>3. ... waar ik succes zou hebben in mijn werk.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>4. ... waar ik een geregeld bestaan zou hebben.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>5. ... waar ik zou weten dat mijn collega's het jammer zouden vinden als ik wegging.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
Ik zou een werkkring prettig vinden ...

Hoe prettig zoudt U dat vinden?

<table>
<thead>
<tr>
<th>niet zo belangrijk</th>
<th>prettig</th>
<th>bijzonder prettig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. ... waar ik anderen of gemakkelijk toe zou kunnen krijgen om te doen wat ik nodig zou vinden.

7. ... waar ik steeds van te voren ongeveer zou weten wat voor werk ik opgedragen krijg.

8. ... waar het werk het beste uit me zou halen waar ik toe in staat ben.

9. ... waar ik respect zou hebben voor de mensen waar ik mee werkte.

10. ... waar de plaats(en) waar en/of de dingen waarmee ik zou werken, schoon en ordelijk zouden zijn.

11. ... waar ik voor mezelf het gevoel zou hebben dat ik nuttig werk deed.

12. ... waar ik met mensen te maken zou hebben die me graag mochten.

Elke werkkring heeft ook z’n vervolondo kanton, maar die zijn ook niet voor iedereen allemaal even belangrijk.

Hierachter volgen nu een aantal dingen, die U misschien vervelend zou vinden wanneer die zich bij een werkkring zouden voordoen. U dan ook liever niet zou kiezen.

We zouden nu graag van U willen weten hoe vervelend U deze dingen in het algemeen zou vinden.
Ik zou een werkring vervelend vinden ...

Hoe vrielend zouden U dat vinden?

<table>
<thead>
<tr>
<th>niet zo belangrijk</th>
<th>vrielend</th>
<th>bijzonder vrielend</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

13. waar ik onbenullig werk zou moeten doen.

14. waar ik zou weten dat ik plotseling voor onverwachte dingen kon komen te staan.

15. waar ze de baas over me zouden spelen.

16. waar mijn collega's me links zouden laten liggen.

17. waar het werk te veel m'n aandacht gespannen zou houden.

18. waar het me zou ontbreken aan waardering voor mijn werk.

19. waar ik in mijn werk bloot zou staan aan voortdurende veranderingen.

20. waar de ontwikkeling van mijn capaciteiten geremd zou worden.

21. waar ik vervelende collega's zou hebben.

22. waar mijn werk erg vermoeidend zou zijn.

23. waar ik gebrek aan zelfvertrouwen zou hebben.

24. waar de mensen waarmee ik zou samenwerken een hekel aan me zouden hebben.
We hebben het tot zover gehad over een aantal dingen die voor U een denkbare werkkring prettig of vervelend zouden kunnen maken.

Ook in de werkkring die U in werkelijkheid vervult zijn er waarschijnlijk een aantal dingen die het werk voor U prettig of vervelend maken.

Kunt U van de hierna volgende dingen zeggen hoe prettig die zijn in Uw werk?

In mijn huidige werk vind ik het prettig ...

<table>
<thead>
<tr>
<th>niet van toepassing</th>
<th>prettig</th>
<th>bijzonder prettig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>1. ... dat ik voel dat mijn collega's me een &quot;geschikte kerel&quot; vinden.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. ... dat het werk me, voor mezelf, het gevoel geeft dat ik werkelijk iets kan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. ... dat ik gunstige werktijden heb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. ... dat ik mijn collega's graag mag.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ... dat ik van mijn werk steeds meer leer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. ... dat ik weet dat mijn chef bij moeilijkheden achter me zal staan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. ... dat ik een zeker prestige geniet.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In de werkring die U in werkelijkheid vervult zijn er waarschijnlijk ook een aantal dingen die het werk voor U vervelend maken.

Kunt U van de hierachter volgende dingen ook zeggen hoe vervelend die zijn in Uw werk?

---

In mijn huidige werk vind ik het vervelend ...

<table>
<thead>
<tr>
<th></th>
<th>niet van toepassing</th>
<th>vervelend</th>
<th>bijzonder vervelend</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>... dat ik op m'n alleentje moet werken.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>9.</td>
<td>... dat ik mezelf minder waard voel als de mensen waar ik mee zou willen verge lijken.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>10.</td>
<td>... dat ik lang onderweg ben om van en naar mijn werk te komen.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>11.</td>
<td>... dat ik een hekel heb aan de mensen waar ik mee werk.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>12.</td>
<td>... dat de kundigheden en mogelijkheden die in me zitten ongebruikt blijven.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>13.</td>
<td>... dat ik de kans loop om onrechtvaardig behandeld te worden.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
<tr>
<td>14.</td>
<td>... dat het me ontbreekt aan erkenning voor wat ik waard ben.</td>
<td>![Score]</td>
<td>![Score]</td>
</tr>
</tbody>
</table>
Wilt U tenslotte nog zo vriendelijk zijn om de volgende vragen te beantwoorden?

1. Hoe vindt U Uw werkring zoals die nu is?

<table>
<thead>
<tr>
<th>heel org</th>
<th>tamelijk hoog</th>
<th>prettig</th>
<th>tamelijk prettig</th>
<th>heel erg prettig</th>
</tr>
</thead>
<tbody>
<tr>
<td>vervolend</td>
<td>vervolend</td>
<td></td>
<td>vervolend</td>
<td>prettig</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Hebt U in de afgelopen 6 maanden er wel eens over gedacht om ander werk te zoeken of ergens anders te gaan werken?

<table>
<thead>
<tr>
<th>nee</th>
<th>wel eens</th>
<th>dikwijls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Hebt U in de afgelopen 2 jaar er wel eens iets aan gedaan om te proberen ander werk te vinden (b.v. ergens gaan informeren, solliciteren, op een advertentie schrijven)?

<table>
<thead>
<tr>
<th>nee</th>
<th>bijna</th>
<th>ja</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Hoe oud bent U?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20</td>
<td>31-35</td>
<td>46-50</td>
<td>61-65</td>
</tr>
<tr>
<td>21-25</td>
<td>36-40</td>
<td>51-55</td>
<td>ouder dan</td>
</tr>
<tr>
<td>26-30</td>
<td>41-45</td>
<td>56-60</td>
<td>65 jaar</td>
</tr>
</tbody>
</table>
Each profession has a number of aspects which make the work pleasant for the person practising that profession.

It is quite feasible that these things are not of equal importance for everybody; one person likes this, the other that.

The following pages give descriptions of a number of professions. In connection with each of these, a number of things are indicated which might be pleasant for the person practising that profession.

Let us consider such a person: we should like to have your opinion as to the degree of importance which you think these people attach to these various things.

The point in question then is not how important you consider these things to be, but how important you think that the people concerned consider these various things to be.

The next page begins with an example from which you can see what it is all about.

*) (Note not in the original) The uppermost of the words printed one above the other are found in lists A and C, the nethermost in lists B and D; this applies throughout.
EXAMPLE

For a factory-boss
it is pleasant unpleasant

How important do you think that this is for that factory-boss?

<table>
<thead>
<tr>
<th>of little importance</th>
<th>important</th>
<th>extremely *)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. ... if he is not treated affably
b. ... if he does not work in healthy surroundings

An X in the first/last*) column would mean that you are of the opinion that a factory-boss would find, what is indicated, "of little importance”, an X in the middle column would mean that you feel that he would consider it "important", and an X in the last/first*) column would mean that you are of the opinion that a factory-boss would find it "extremely important”.

The two marks have been placed in one of the columns merely by way of example; naturally, there are no more or less correct answers. We only ask for your personal opinion.

N.B. As you can see, you may also choose the 2nd and the 4th column, even though no particular heading has been printed there.

--- What is your opinion about the things which are listed hereunder?

For a factory-boss
it is pleasant unpleasant

How important do you think that this is for that factory-boss?

<table>
<thead>
<tr>
<th>of little importance</th>
<th>important</th>
<th>extremely *)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. ... if he does not have the opportunity of helping somebody now and again.
2. ... if he does not feel independent.
3. ... if he is not succesfull in his work.
4. ... if he has no regular pattern of work and life.
5. ... if he knows that his colleagues would not be unhappy if he left.

*) (Note not in the original) For lists B and D, the direction of the scale is reversed throughout.
The symbols $c_3$, $a_1$ etc. are explained in section 6.3.4.
The symbols $IIa/1$, $IV/3$ etc. refer to the texts to be found in appendices 1 and 4.

<table>
<thead>
<tr>
<th>(A⁺)</th>
<th>(B⁻)</th>
<th>(C⁺)</th>
<th>(D⁻)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$c_3$</td>
<td>$b_3$</td>
<td>$c_1$</td>
<td>$b_1$</td>
</tr>
<tr>
<td>6 $IIa/1$</td>
<td>6 $IV/3$</td>
<td>6 $IIIb/3$</td>
<td>6 $IIIb/3$</td>
</tr>
<tr>
<td>7 $IIIa/1$</td>
<td>7 $IIIa/3$</td>
<td>7 $V/3$</td>
<td>7 $V/3$</td>
</tr>
<tr>
<td>8 $IV/1$</td>
<td>8 $IIa/3$</td>
<td>8 $1/3$</td>
<td>8 $1/3$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 $IIb/3$</td>
<td>9 $IIb/3$</td>
</tr>
<tr>
<td>$a_1$</td>
<td>$d_1$</td>
<td>$d_1$</td>
<td>$a_1$</td>
</tr>
<tr>
<td>9 $IIIb/1$</td>
<td>9 $IIIb/1$</td>
<td>10 $IIb/1$</td>
<td>10 $IIb/1$</td>
</tr>
<tr>
<td>10 $1/i$</td>
<td>10 $1/1$</td>
<td>11 $1/1$</td>
<td>11 $1/1$</td>
</tr>
<tr>
<td>11 $V/1$</td>
<td>11 $V/1$</td>
<td>12 $V/1$</td>
<td>12 $V/1$</td>
</tr>
<tr>
<td>12 $IIIb/1$</td>
<td>12 $IIIb/1$</td>
<td>13 $IIIb/1$</td>
<td>13 $IIIb/1$</td>
</tr>
<tr>
<td></td>
<td>(A⁺)</td>
<td></td>
<td>(B⁻)</td>
</tr>
<tr>
<td>---</td>
<td>------</td>
<td>---</td>
<td>------</td>
</tr>
<tr>
<td>d₃</td>
<td>a₃</td>
<td>a₃</td>
<td>d₃</td>
</tr>
<tr>
<td>13</td>
<td>IV /₃</td>
<td>13</td>
<td>IIa /①</td>
</tr>
<tr>
<td>14</td>
<td>IIIa /₃</td>
<td>14</td>
<td>IIIa /①</td>
</tr>
<tr>
<td>15</td>
<td>IIa /₃</td>
<td>15</td>
<td>IV /①</td>
</tr>
<tr>
<td>b₁</td>
<td>c₁</td>
<td>b₃</td>
<td>c₃</td>
</tr>
<tr>
<td>16</td>
<td>IIIb /₃</td>
<td>16</td>
<td>IIIb /③</td>
</tr>
<tr>
<td>17</td>
<td>V /₃</td>
<td>17</td>
<td>V /③</td>
</tr>
<tr>
<td>18</td>
<td>I /₃</td>
<td>18</td>
<td>I /③</td>
</tr>
<tr>
<td>19</td>
<td>IIb /₃</td>
<td>19</td>
<td>IIb /③</td>
</tr>
</tbody>
</table>
Just as each profession will have its pleasant aspects, there are also a number of things which make the work unpleasant for the person practising that profession.

It is feasible that also these things are not of equal importance for everyone; one individual dislikes this, the other that.

A number of professions are mentioned hereunder together with a number of things that might be unpleasant for the person practising that profession.

Let us again consider such a person: again we should like to have your opinion as to the degree of importance which you think these people attach to these various things.

The point in question then is not how important you consider these things to be, but how important you think that the people concerned consider these various things to be.

<table>
<thead>
<tr>
<th>For a civil-servant</th>
<th>How important do you think that this is for that civil-servant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>it is unpleasant</td>
<td></td>
</tr>
<tr>
<td>pleasant</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>of little importance</th>
<th>important</th>
<th>extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. ... if he is</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>obliged to perform</td>
<td>===</td>
<td>===</td>
<td>===</td>
</tr>
<tr>
<td>trivial tasks.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. ... if he knows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>would suddenly be</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>confronted with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unexpected things.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. ... if he would</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>be bossed around</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. ... if his</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>colleagues would</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not leave him to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fend for himself.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. ... if the work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>would not tax his</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attention to much.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(A⁻)</td>
<td>(B⁺)</td>
<td>(C⁻)</td>
</tr>
<tr>
<td>--------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>c₄</td>
<td>b₄</td>
<td>c₂</td>
<td>b₂</td>
</tr>
<tr>
<td>25</td>
<td>IIb / 4</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>I / 4</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td>V / 4</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>IIIb / 4</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>a₂</td>
<td>d₂</td>
<td>d₂</td>
<td>a₂</td>
</tr>
<tr>
<td>29</td>
<td>IV / 2</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>30</td>
<td>IIIa / 2</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>31</td>
<td>IIa / 2</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>(A⁻)</td>
<td>(B⁺)</td>
<td>(C⁻)</td>
<td>(D⁺)</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>d₄</td>
<td>a₄</td>
<td>a₄</td>
<td>d₄</td>
</tr>
<tr>
<td>32</td>
<td>IIIb / 2</td>
<td>32</td>
<td>IIIb / 2</td>
</tr>
<tr>
<td>33</td>
<td>V / 2</td>
<td>33</td>
<td>V / 2</td>
</tr>
<tr>
<td>34</td>
<td>I / 2</td>
<td>34</td>
<td>I / 2</td>
</tr>
<tr>
<td>35</td>
<td>IIb / 2</td>
<td>35</td>
<td>IIb / 2</td>
</tr>
<tr>
<td>b₂</td>
<td>c₂</td>
<td>b₄</td>
<td>c₄</td>
</tr>
<tr>
<td>36</td>
<td>IIIa / 4</td>
<td>36</td>
<td>IIIa / 4</td>
</tr>
<tr>
<td>37</td>
<td>IIIa / 4</td>
<td>37</td>
<td>IIa / 2</td>
</tr>
<tr>
<td>38</td>
<td>IV / 4</td>
<td>38</td>
<td>IIIb / 4</td>
</tr>
</tbody>
</table>

\(\alpha\) A C B D 2.3
In elk beroep zijn er een aantal dingen die het werk prettig maken voor degene die dat beroep uitoefent.

Misschien zijn die dingen niet voor iedereen even belangrijk; de één vindt dit prettig, de ander dat.

Hierachter volgen enkele beroepen. Bij elk daarvan wordt een aantal dingen genoemd die prettig zouden kunnen zijn voor degene die dat beroep uitoefent.

Stelt U zich zo iemand eens goed voor: we zouden graag van U willen weten hoe belangrijk U denkt dat die mensen die verschillende dingen vinden.

Het gaat er dus niet om hoe belangrijk U die dingen vindt, maar hoe belangrijk U denkt dat die anderen die dingen vinden.

De volgende pagina begint met een voorbeeld waaraan U kunt zien wat de bedoeling is.
VOORBEELD

Voor een fabrieksbaas is het prettig ...

Hoe belangrijk denkt U dat dat voor de fabrieksbaas is?

<table>
<thead>
<tr>
<th>Weinig belangrijk</th>
<th>Belangrijk</th>
<th>Bijzonder belangrijk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. ... als hij voorkomend wordt behandeld.

b. ... als hij in een gezonde omgeving werkt.

Een kruisje in het eerste vakje zou dus betekenen dat U van mening bent dat een baas op een fabriek het "weinig belangrijk" zou vinden wat er staat, een kruisje in het middelste vakje dat U denkt dat hij het "belangrijk" zou vinden, en een kruisje in het laatste vakje zou betekenen dat U van oordeel bent dat een fabrieksbaas het "bijzonder belangrijk" zou vinden.

Do twee kruisjes zijn maar omwille van het voorbeeld ergens neergezet; er bestaan natuurlijk geen goede of minder goede antwoorden. We vragen alleen naar Uw eigen mening.

N.B. U ziet dat U ook het 2e en het 4e vakje kunt kiezen, ook al staat daar niet apart iets bijgedrukt.

-- Wat is Uw mening omtrent de dingen die hieronder staan?

Voor een fabrieksbaas is het prettig ...

Hoe belangrijk denkt U dat dat voor de fabrieksbaas is?

1. ... als hij in de gelegenheid is om eens iets voor een ander te doen.

2. ... als hij zich onafhankelijk voelt.

3. ... als hij succes heeft in zijn werk.

4. ... als hij een geregeld bestaan heeft.

5. ... als hij weet dat zijn collega's het jammer zouden vinden als hij wegging.
Voor een handelsreiziger
is het prettig ...

<table>
<thead>
<tr>
<th></th>
<th>Weinig belangrijk</th>
<th>Belangrijk</th>
<th>Bijzonder belangrijk</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>... als zijn werk hem, voor zichzelf, het gevoel geeft dat hij werkelijk iets kan.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7</td>
<td>... als hij zijn collega's graag mag.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8</td>
<td>... als hij weet dat zijn chef bij moeilijkheden achter hem zal staan.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Voor een arts in een ziekenhuis is het prettig ...

<table>
<thead>
<tr>
<th></th>
<th>Weinig belangrijk</th>
<th>Belangrijk</th>
<th>Bijzonder belangrijk</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>... als hij zeker prestige geniet.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>10</td>
<td>... als hij van zijn werk steeds meer leert.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>11</td>
<td>... als hij gunstige werkstijden heeft.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>12</td>
<td>... als hij voelt dat zijn collega's hem een &quot;genschikte kerel&quot; vinden.</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
Voor een straatreiniger
is het prettig ...

13 ... als hij steeds van te voren ongeveer weet wat voor werk hij opgedragen zal krijgen.

14 ... als hij respect heeft voor de mensen waar hij mee werkt.

15 ... als hij voor zichzelf het gevoel heeft dat hij nuttig werk doet.

Hoe belangrijk denkt U dat dat voor die straatreiniger is?

weinig

belangrijk

bijzonder

belangrijk

13

14

15

Voor een officier
is het prettig ...

16 ... als hij met mensen te maken heeft die hem graag mogen.

17 ... als de plaats(en) waar en/of de dingen waarmee hij werkt, schoon en ordelijk zijn.

18 ... als het werk het beste uit hem haalt waar hij toe in staat is.

19 ... als hij anderen er gemakkelijk toe kan krijgen om te doen wat hij nodig vindt.

Hoe belangrijk denkt U dat dat voor die officier is?

weinig

belangrijk

bijzonder

belangrijk

16

17

18

19
Zoals er aan elk beroep een aantal prettige kanten zullen zitten, zijn er ook een aantal dingen die het werk onprettig maken voor degene die dat beroep uitoefent.

En misschien zijn ook deze dingen niet voor iedereen even belangrijk; de één vindt dit vervelend, de ander dat.

Hieronder volgen weer enkele beroepen, en bij elk daarvan worden nu een aantal dingen genoemd die vervelend zouden kunnen zijn voor degene die dat beroep uitoefent.

Stelt U zich deze mensen weer goed voor: we zouden ook nu weer van U willen weten hoe belangrijk U denkt dat die mensen die verschillende dingen vinden.

Het gaat er dus weer niet om hoe belangrijk U die dingen vindt, maar hoe belangrijk U denkt dat die anderen die dingen vinden.

Voor een ambtenaar is het vervelend ...

Hoe belangrijk denkt U dat dat voor de ambtenaar is?

<table>
<thead>
<tr>
<th></th>
<th>Weinig belangrijk</th>
<th>Belangrijk</th>
<th>Bijzonder belangrijk</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>als hij onbenullig werk moet doen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>als hij weet dat hij plotseling voor onverwachte dingen kan komen te staan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>als ze de baas over hem spelen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>als zijn collega's hem links laten liggen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>als het werk te veel zijn aandacht gespannen houdt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voor een treinconducteur is het vervelend ...</td>
<td>Hoe belangrijk denkt U dat dat voor die treinconducteur is?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 ... als het hem ontbreekt aan erkenning voor wat hij waard is.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 ... als de kundigheden en mogelijkheden die in hem zitten, ongebruikt blijven.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 ... als hij lang onderweg is om van en naar zijn werk te komen.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 ... als hij op z'n alleentje moet werken.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voor een rechter is het vervelend ...</th>
<th>Hoe belangrijk denkt U dat dat voor die rechter is?</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 ... als hij in zijn werk bloot staat aan voortdurende veranderingen.</td>
<td></td>
</tr>
<tr>
<td>30 ... als hij vervelende collega's heeft.</td>
<td></td>
</tr>
<tr>
<td>31 ... als hij gebrek aan zelfvertrouwen heeft.</td>
<td></td>
</tr>
</tbody>
</table>
Voor een **loopjongen**

is het vervelend ...

<table>
<thead>
<tr>
<th>32 ... als de mensen waarmee hij samenwerkt, een hekel aan hem hebben.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>33 ... als zijn werk erg vermoeiend is.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>34 ... als de ontplooiing van zijn capaciteiten geremd wordt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>35 ... als het hem ontbreekt aan waardering voor zijn werk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

Hoe **belangrijk** denkt U dat dat voor de loopjongen is?

Voor een **onderwijzer**

is het vervelend ...

<table>
<thead>
<tr>
<th>36 ... als hij zichzelf minder waard voelt als de mensen waarmee hij zich zou willen vergelijken.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>37 ... als hij een hekel heeft aan de mensen waar hij mee werkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>38 ... als hij de kans loopt om onrechtvaardig behandeld te worden.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinig belangrijk</td>
</tr>
<tr>
<td>⬇</td>
</tr>
<tr>
<td>***</td>
</tr>
</tbody>
</table>