Gudmund J. W. Smith – Ingegerd M. Carlsson (Eds.)
Process and Personality
Actualization of the Personal World With Process-Oriented Methods

PROCESS THOUGHT

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Ingegerd M. Carlsson (Editors)

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CONTENTS

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INTRODUCTION

Gudmund Smith and Ingegerd Carlsson

The present book is an extended as well as updated version of contributions to a conference on microprocesses, or perceptgeneses, as termed in the present context. The conference was held in Delphi, Greece, October 2000. Most participants in the conference are represented in the book but additional researchers in the field were invited to contribute. The book is a collection of theoretical essays and original empirical work especially written for the illumination of a subject particularly urgent when the attention of psychological inquiry, as the present authors see it, has for a long time been focused on surface phenomena.

We know how differentiated and complicated the processing of sense impressions is and how difficult to uphold a strict distinction between stimulation, on the one hand, and processing, on the other. Such a distinction is still often maintained in present-day theorizing. Still, many of us pride ourselves on the victory of rationalism over subjective speculation in psychology. But even the so-called cognitive revolution has left much of the traditional infrastructure intact. Starting with sense data as the source of mental life, certain traditionalists strive to follow how these data are processed by various receptors, organized centrally according to principles reminiscent of classical associationism, and stored in chambers of memory.

To be sure, during the last years there have been efforts in all 'camps' of research to operate with a more differentiated model of perception and sensory data processing. For example, it is interesting to note that, after decades of resistance to any intimation of the existence of processes beyond conscious control, experimentation on subliminal stimulation has mushroomed during the nineties. At the same time as the existence of an unconscious world has become an irrefutable empirical fact, it is difficult for many to explain why subliminal processing does not necessarily produce the same results as found at the supraliminal level and hence that the preconscious world may not be an enfeebled copy of the conscious one, but something qualitatively different.

The relevant adjustments recently introduced into the theoretical mainstream have long been anticipated by proponents of perceptgenesis (or microgenesis), as will be partly documented in the contributions of this volume. But adjustments alone will not do—there are, in fact, four rather fundamental theoretical presuppositions and tendencies that need to be questioned.

First, psychologists tend to operate with an all too simplified model of the storage of information, a 'picture of memory' which has as its precursor the theory of engrams inherited from Plato. Memory is often thought of as a locker, or a system of lockers, and the deposits in these lockers are regarded as accessible in principle. If not, it is not uncommon to borrow the concept of repression from psychoanalysis to account for the unavailability. But the notion of 'repression' as used in cognitive psychology has none of the dynamic underpinnings of the original concept.

Second, psychologists tend to operate with a strict and often artificial distinctions. For example, the 'memory system' is distinguished from the 'perception system', and these in turn are taken to be separate from 'personality', which is presented as a theoretical category of its own. Given these distinctions, the connection between these factors is difficult to explain and usually ignored. Feelings and emotions, in particular as they affect as unconscious forces our conscious deliberations, thus are perceived as a particular problem, challenging the traditional presumption that thinking and feeling belong to different spheres.

Third, traditional descriptions of the contents and inner dynamics of personality aspects, often unsystematic but insightful and engaging, have been replaced by multidimensional schemata based on sophisticated statistical programs. Unfortunately, the so-called traits defining these dimensions are frequently treated akin to semi-permanent features (like traditional abilities), or substance-like objects. This partiality for mechanistic theorizing and reification—additionally supported by the metaphor use of digital processes and the mind as computer—runs the risk of neglecting a thorough phenomenological analysis of the data.. Oddly enough, the tendency towards 'mechanistic' theorizing threatens to estrange psychology from important trends in modern biology, e.g., the emphasis on interaction and process.

Fourth, focusing rather on stability and permanence than on dynamic restructuring and change, contemporary personality psychologists tend to find the developmental perspective unrewarding.

These four presuppositions and tendencies are all abandoned in perceptgenetic (microgenetic) according to which our conception of the world is created by processes originating in personal experiences. Sense impressions are not primarily looked upon as starting-points for mental activity but as constraints for what the creative perceptgenetic processes are allowed to sculpt. Perception, in this view, is thus deeply embedded in the broader dynamics and structures of the subjective, personal world. Even if it sounds strange, tangible objects "out there" may, for instance, be constructed and regarded as extensions of memory processes (cf. particularly Brown, 2002).

Thus viewing our psyche as a succession of processes shaping the personal world has proved to be immensely rewarding. Over the years, perceptgenetic researchers have developed a variety of efficient tests to serve the in-depth descriptions of how the individual functions in different situations. Among many possible examples let us just choose the selection of competent air plane pilots or trustworthy car drivers, the correct diagnosis of psychiatric ailments, or spotting creative talent in children and adults. Since all of us in contemporary society are confronted with steadily increasing demands on our mental resources, any attempts at refining personality theory and making it more realistic would be of paramount importance.

Five chapters (1, 2, 4, 14, 15) are mainly concerned with theory. Gudmund Smith´s text (1) may serve as a general introduction to the basic topic of the present book, i.e., process and its signification for a theory of personality. While some of the contributors still regard psychoanalysis as the most promising grid for micro-process theorizing, Smith expresses some doubt and vouches for an independent micro-process theory of personality. This is, indeed, the position taken by Jason Brown (15) who has developed a process-oriented theory of his own, based on his experience with patients suffering from aphasia as well as inspirations from philosophers like Henri Bergson, and Alfred North Whitehead. Having a clear philosophical angle Brown´s contribution is placed at the end, preceded by

Joseph Glicksohn (14) who paints an alternative context using Hughlings Jackson and Heinz Werner as anchor points. The chapter by Juris Draguns (2) gives a well-informed account of the history of perceptgenetic (PG) research and experimentation and an assessment of its prospects, while Anders Zachrisson (4) focuses the adjustment of the personal world to common-sense reality, not concealing his psychoanalytic preferences.

In other chapters (3, 8, 9, 10, 11) theoretical and methodological themes are sandwiched. Ulf Kragh (3) treats some essential topics seldom cultivated in perceptgenetic writings. One of these problems concerns the classical problem of associations, seen by Kragh as PG prestages of perception. Other problems highlighted in a PG context are the connection between PG and ontogeneses and between body and mind. Ingegerd Carlsson and Fredrik Neuman (8) show that the Meta-Contrast Technique can be used to open the door to the inner world of repressors, i.e. people who are obviously "blind-folded". With the use of screening inventories, the repressor group was separated from a "true" low-anxious group as well as from a high anxious group. When tested with the Meta-Contrast Technique, the three groups were all found to differ from each other. The results in the repressor group were in line with other research that describes these people as inclined to develop psychosomatic symptoms.

In his study, Peter Jönsson (9) demonstrates, timely in the present context, that the threat stimulus used in the Meta-Contrast Technique has indeed a noticeable somatic effect. Using heart-rate variability he got a measure of sympathovagal balance. A threatening stimulus picture presented below or above the subjective threshold was clearly related to that balance, indicating a freezing reaction with enhanced attention.

Uwe Hentschel and Juris G. Draguns (10) vouch for the use of perceptgenetic diagnostics as a preparation for efficient therapeutic work. They list eight potential topics of psychotherapy research in which PG methods may be successfully employed. Alexis Rubino, Frederica Tozzi, and Alberto Siracusano (11), seasoned users of the Serial Color-Word Test (S-CWT), dwell on the adaptive aspects of process methodology and demonstrate how norms used in that test could be made more efficient by further emphasizing the process approach.

The volume also contains original work from applied contexts. In two studies, Mikael Henningsson (5), and Per Fransson and Elisabet Sundbom (7), employ partial squares discriminant analysis to demonstrate the reliability and validity of the Defense Mechanism Test as a diagnostic tool in different contexts. Henningsson manages to define patients with a chronic fatigue syndrome as a group different from other clinical groups and Fransson and Sundbom are able to capture the influences of age and gender on the use of defenses; females, for instance, preferred different variants of the perceptual defense "identifications with the opposite sex". They also found particular characteristics in refugees suffering from post-traumatic disorder.

Eva Hoff and Ingegerd Carlsson (13) compared perceptgenetic and traditional measures of creativity in a sample of children and explored the relationship between creativity and the results of a self-image inventory. Among other things, Hoff and Carlsson draw the conclusion that a creative disposition does not necessarily imply that the child holds her/himself in high esteem.

Ingegerd Carlsson, Gunilla Amnér and Gudmund Smith (12) are able to discriminate within a group of fighter pilots and between pilots and ground officers, using both the Creative Functioning Test, the Serial Color-Word Test, as well as a process test of extraversion-introversion (the so-called Spiral Aftereffect Technique, to be described in that chapter). In this exploratory study of personality patterns, the pilots formed subgroups that were, when compared afterwards, significantly separated in age and competence, as well as in other categories that had been established on the basis of questionnaires with open questions about their work and their interests.

1. WHAT IS PERCEPTGENESIS REALLY ABOUT?

Gudmund J.W. Smith

This chapter outlines the basic framework of perceptgenetic (PG) theory: that reality is not a mere reflection of outside givens but a construction of them. The mostly implicit pulses involved in this construction can to a certain extent be reconstructed by means of special techniques. PG methods and applications have often been tied to psychodynamic assumptions. The advantages and disadvantages of such an attachment are discussed. One advantage is the focus on process in psychodynamic theory and practice; but a disadvantage is its lack of a modern theory of perception. Instead of borrowing from psychoanalysis PG might as well build a theory of its own; there is no lack of useful ingredients. The survey is throughout linked up with the subsequent chapters in the book.

INTRODUCTION

Perceptgeneses are usually identified with ultrashort processes protracted for observation by means of special techniques, tried already in the twenties in Germany and Italy (see Draguns, 1983, and Chapter 2). These techniques imply that stimuli are presented "piecemeal", starting from time or illumination (or, loudness) values below the visual (auditory) threshold, and systematically prolonged or increased until correct recognition. The sequence of reports from the test subject of what he/she has seen (heard) at these stimulus presentations constitute a perceptgenesis (PG in the following).

The creation of a PG would hardly be more than harmless play were it not for a crucial assumption: The PGs somehow reflect how we construct our representation of reality - in daily life, at least in case the stimulus situation is comparatively novel and significant. As the experimenter soon learns, all too well-known stimuli, or stimuli devoid of meaning, do not produce processes such as the term is understood here.

This basic assumption in PG research has been called in question, particularly by orthodox perception psychologists. One of the critical points would be that constructive processes operating in daily life are not repeatedly interrupted for observation and reporting. Kragh and Smith (1970) dealt with this objection but refuted it by pointing out, among other things, that ordinary perception is not an uninterrupted staring at the object but series of intermittent fixations. Without intermittence the object would dissolve. Moreover, if PGs were not more than artifacts their intimate connections with a multitude of other observations would be incomprehensible.

The naive realist is bound to be disturbed by the elusive character of PGs. They apparently unfold outside immediate awareness. But the observant perceiver might notice that there is more to everyday perception than a momentary photographic reproduction of outside reality. Our scrutiny of the world around us is usually accompanied by emotions, sudden impulses, intuitive ideas, vague forebodings, etc. One way to comprehend this continuous simmering would be to see it as remnants of early PG stages or of PGs never completed as conscious percepts (cf. Chapter 3). Only if habituated to the utmost can perception become totally detached.

As just pointed out, experimenters working with PG methodology soon found out that reuse of stimuli with the same subjects resulted in impoverished PGs. The sequence of reports reached the stage of correct recognition with fewer and less varied stages in between. Repetition resulted in increasing automatization (Smith, 1991). This could be understood as a device for economizing, transforming to routine strenuous efforts at mastering a new situation.

What made PGs more than theoretically interesting was the discovery that they could be applied with obvious success. One of the first uses was in the selection of future air force pilots. Ulf Kragh applied stimulus pictures with an innocuous, central identification figure and a peripherally placed threatening person (the Defence Mechanism Test, DMT, Kragh, 1985 and Chapter 3). By scoring various distortions in the reporting of the threat as reflections of defensive operations he got an indication of the degree of inside turmoil in the applicant. And the more defensive the distor-

tions, the more dangerous the imminent deflection from the ultimate task of the pilot: an optimal control of the outside events flashing by.

The obvious interindividual variation between PG protocols also encouraged the use of PG methods for clinical purposes. A technique originally based on attempts at utilizing subliminal stimulation, the Meta-Contrast Technique, MCT (Smith, Johnson, Almgren, & Johanson, 2001), was applied already in the fifties. Here the contrasting stimuli, contrary to the procedure in the DMT, consisted of two different pictures. While the viewer was adjusted to the second stimulus beforehand, the first stimulus, incongruent with the second one or implying a threat to its central character, was only introduced by small steps, PG fashion. The intention of this arrangement was to find out how the subject accepted the intrusion of controversial stimulation into a situation which he had identified beforehand.

The MCT was proven successful as a clinical tool (Smith, 2001; see also Chapters 8 and 9). It could also be remodeled to serve specific purposes, e.g. the analysis of flight phobia (Amnér, 1997). At the same time the use of the DMT was extended to new problem areas, like traffic accidents (Svensson & Trygg, 1994). Its utility in clinical practice was effectively demonstrated by Sundbom and her associates (Sundbom, 1992; Sundbom, Jacobsson, Kullgren, & Penayo, 1998; and Chapters 5, 6, and 7). One of their most obvious feats was to separate borderline patients as a particular category in a sea of neurotic and psychotic disturbances, and also to identify the symptom profile of people complaining of chronic fatigue (Henningsson, 1999).

Andersson (1995) developed a special variant of the DMT termed the Defense Mechanism Technique, modified (DMTm) implying, among other things, the use of representatives of both sexes at the place of the threat as well as at the place of the central figure (the hero), and a revision of the scoring scheme. A further development introduced stimulus motifs referring to, among other things, early attachment and separation. This was tried out with favourable outcome by Nilsson (Nilsson & Svensson, 1999).

PG WITHIN THE FAMILY OF PROCESSES

The reality around us, as comprehended by PG theory, is constructed by micro-processes, mostly outside awareness and subjectively colored from the start. This does not imply a solipsistic interpretation of reality. The bouquet of many possibilities typical of early process stages is soon thinned out under the constraints of stimulus. The sequence of events representing a PG has all the hallmarks of a regular process, i.e., a successive transformation of meaning from one stage to the next combined with an interdependence of consecutive stages. This does not rule out sudden metamorphoses in the chain of phases, particularly not if the personal involvement in the perceptual event was intense from the start.

But the definition of PGs as processes does not make their alignment within the greater family of adaptive processes wholly unproblematic. While the sequence of events leading, in due course, to increased mastery of a new situation or task, in for instance the Serial Color-Word Test (S-CWT, with its in-built contradictions) is open to the inspection by the subject him-/herself - we recognize how our mastery increases or varies over the trials - PGs are usually hidden or only indirectly reminding us of their existence. Moreover, the aim of adaptation is to adjust our behavior to outside givens while PGs underlie the construction and acceptance of them. This presupposes a mutual, and complicated, interdependence which deserves to be studied in more detail, perhaps experimentally (see also Chapter 12 and 13).

Generally speaking, adaptive processes present the subject's adaptive encounters with reality from the outside, perceptgeneses these encounters from the subjective inside.

Still, these two kinds of processes share the typical process attributes mentioned above. Their affinity can be exemplified by the concordance of adaptive serials and PGs when studied in the same individuals. Let us take regression in psychosis as an example (cf. Smith, 2001). The adaptive serial can be illustrated by an aftereffect phenomenon, i.e. the successive adjustment to negative visual afterimages initiated by a colored stimulus and thereafter projected on a screen. The usual unfamiliarity with visual after-

images makes possible a sequence of qualitative transformations until the subject's view of the phenomenon is settled.

The chain of reports of the afterimage appearance is normally adapted by degrees to the understanding that afterimages are subjective phenomena projected onto physical reality. This is not so in cognitively immature children. To them the afterimage is as real as the surface upon which it appears. Consequently, while adult afterimages grow in size proportionally to the distance of the surface from the eye, childish images remain more or less size-constant. And they usually retain the color of the inducing stimulus, not the contrasting, negative hue experienced by the normal adult.

Table 1.1. Process-oriented methods.
Adaptive Serials
     The Visual Afterimage Test (AI)
     The Spiral Aftereffect Test (SAT)
     The Serial Color-Word Test (S-CWT)
     The Serial Picture-Word Test (S-PWT)
Genuine Perceptgenetic Methods
A. Single Stimulus, Tachistoscopic Presentation
     The Defense Mechanism Test (DMT)
     The Defense Mechanism Technique, modified (DMTm)
     The Perceptgenetic Object Relations Test (PORT)
B. Single Stimulus, Reversed Genesis
     The Creative Functioning Test (CFT)
C. Double Stimuli, Tachistoscopic Presentation
     The Meta-Contrast Technique (MCT)
     The Flight Situation Test (FST)
     The Identification Test (IT), several versions
D. Single Stimulus, Amauroscopic Presentation
     i.e., systematic change in illumination

The trademark of psychotic adult patients is that they intermittently revert to size-constant, positive images. Since we know what childish images are like we have every reason to call these abrupt changes regressions. In the same way the psychotic individual in traditional PG tests reports impressions of sudden shifts, either to early stages in the sequence of descriptions or, more blatantly, to so-called zero-phases where nothing can be seen but blackness or chaos. The test patient has lost his/her grip on the road to real-

ity. Such intermittent losses of control are also evident in tests of cognitive skills, for example, the Serial Color-Word Test (see Table 1 and also Smith, Nyman, Hentschel, & Rubino, 2001).

This was only one example among many that processes at different levels of actualization share formal characteristics. They also share the fate of abbreviation upon repetition. If the experimenter intends to bring about processes optimized for close scrutiny, the participant should be unacquainted with the stimulation entertained in the experiment. It may sometimes be necessary, for instruction purposes, to open the door slightly to the experimental situation. But a door wide open may ruin the experiment completely (cf. Smith, 2007).

PERCEPTGENESIS AND PERSONANLITY THEORY

What could be more sensible than to regard process as the very hub of personality theory? But the essence of contemporary personality theory seems elusive. The most typical reference in periodicals devoted to personality research is to some sort of factorial construction, e.g., the so-called ”big five” (see Wiggins, 1996). Here personality is described as a complex of interacting, reified components or traits worked out on the basis of systematized self-descriptions. For a hard-headed scientist neither theory nor its empirical fundaments would look impressive. But it can be demonstrated that traits are relatively stable units, at least in normal adult people.

The disadvantage with that kind of theory is that it limits the psychological description to a few mechanistic assumptions. The developmental perspective is usually ignored and perception, like in classical psychoanalysis, relegated to a marginal existence. The concept of process thus does not seem fit for commonplace personality theory. Still, process would not necessarily be a too impalpable ingredient among the reified traits making up the factorial space called personality. As pointed out by Rapaport (1967), process with a slow rate of change eventually acquires the stability of a structure, or of a *standing wave.* This fitting metaphor was employed by the evolutionary biologist John Maynard Smith and, originally, by the mathematician Alan Turing. But while traits are abstract entities, structure,

even if seemingly solidified, refers to process, i.e., to concrete life events (see also Chapter 15).

PERCEPTGENESIS AND PSYCHOANALYSIS

Perhaps psychoanalysis fits the concepts of process and structure better. Here the developmental perspective is necessarily dominant. And psychoanalysis was the obvious frame of reference in the early days of PG research and speculation (see also Chapter 4). The Defence Mechanism Test, for instance, was primarily supposed to uncover defense mechanisms in the psychoanalytic meaning of that term. Anna Freud´s classification of defenses served as a natural reference grid.

PG techniques held a particular advantage when it came to probing psychoanalytic presumptions experimentally. Westerlundh and Sjöbäck (1986) used an amauroscopic technique, i.e., they protracted the PG with systematic increases of illumination instead of prolonging exposure times. Presenting conflict-laden stimuli at low intensities, they asked if these influenced a subsequent PG in the way presumed by psychoanalytic theory. This presumption was found to be resonably tenable.

A theoretical scheme constructed to fit results from DMTm (DMTmodified) was used by Andersson in several investigations and later adopted by Ryhammar (Andersson & Ryhammar, 1998; Ryhammar, 1996). Now it was not classical psychoanalysis that served as sponsor but rather such deviants as Melanie Klein and Heinz Kohut. Another member of the extended Kleinian group, John Bowlby, inspired Nilsson (Nilsson & Svensson, 1999) in his choice of pictures for the Perceptgenetic Object Relations Test (PORT). These pictures refer, as already said, to early attachment, separation and the Oeidipus constellation in the child's social development.

But the adaptation of PG to psychoanalytic theory, in spite of many successful combinations, still remains controversial in many respects. As we all know, psychoanalysis is a many-headed dragon. Not a few psychologists, like George Klein (1970), distinguish between psychoanalysis as a bundle of clinical observations and assumptions, and psychoanalysis as a metatheory. Klein adopted an attitude of reserve against the latter. In a

penetrating analysis of this level of psychoanalytic theorizing, starting with Freud´s neuroscientific project for an encompassing theory, Brown (2000, and Chapter 15) has pointed out that many salient features of the meta-theory really derive from old-fashioned associationism. According to Brown this theory seems to be made up of solid, i.e., separate, objects in interaction. Typical is the view of perception as distinct from memory. But, as Brown sees it, ”memory is brought to bear on perception, not after it is recorded”, as analysts will have it, ”but in the original process through which it is recorded” (p. 51).

These reminiscences of century-old associationism - typical also of much presentday cognitive psychology - may explain why psychoanalysis remains problematic even to outsiders who are positively inclined to many of its basic tenets; and also why it seems difficult to establish a constructive dialogue between psychoanalysis and PG in its academic costume. This is true even in fields of common interest, like anxiety and defense, or when the question arises where to test key assumptions empirically, in therapy or in the laboratory (see also Chapter 11). An additional reason could be the increasing emphasis on therapeutic problems and consequent decreasing concern for theoretical issues. Anyhow, to the practising psychoanalyst findings made in a laboratory, even a PG one, do not seem necessarily relevant. When rethinking is demanded it is easy to regress to what Brown (2000) calls ”the solid architecture of associationism.”

But PG is still closely tied to psychoanalysis. One of its main attractions is the attempt to give a comprehensive picture of personality. Even if the concept of personality is rarely entertained in psychoanalytic writings, the goal of inquiry is still some kind of central principle steering the individual´s mental life and actions. Most PG people would be apt to identify personality with such an organizing center. Thus defensive mechanisms are not understood as additional tools to be used in the service of adaptation and inner composure but as part and parcel of a dynamic system of processes. Unfortunately, as already intimated, an aspect of personality functioning particularly dear to PG research, namely perception, remains marginalized in psychoanalytic theories, old as well as contemporary.

Two central psychoanalytic foci, evident not least in everyday clinical work, are development and emotion. A person ripped off from his mental

history can never be fully understood. In the same way workers in the PG tradition regard the present as an actualization of the past. The ongoing renewal at the spearhead of reality construction cannot be comprehended without reference to the phases preceding the final phase. Defenses emerging in late sections of a PG are often foreboded in early sections, e.g., by signs of anxiety or uncertain identity. It is also equivalent with psychoanalytic presumptions to see development as a hierarchy of subsequent phases, differing not only in distinctness but above all qualitatively. Thus preconscious experiences should not be regarded as weak copies of conscious ones - they are different.

Like in psychoanalysis, emotions in the PG model are not just substances added to existing cognitive structures. They are intrinsic attributes of the processes of construction. Usually early sections of these processes are more dominated by emotions, eventually yielding to more and more objective, person-independent structures in late sections. But emotions are never totally absent, at least not in normal persons. Without emotions perceptgeneses cannot unfold in a virtual representation of reality. In order to serve as mortar in the process of reality construction, however, emotions have to be available for reconstruction (as demonstrated in experiments with children, Smith & Carlsson, 1990) or, to use equivalent terms, the level of "procedural knowledge" (Schachter, 1987) must be made accessible to categorical (reality-proximal) organization (see also Smith & Carlsson, 2005).

OTHER ASSOCIATIONS

A focus on process implies, at least as the present writer sees it, actualization of a biological perspective (see also Chapter 14). The term biological is often understood in a narrow physiological sense, a reduction of explanations to neurochemistry or kindred topics. But biology is a life science in a much wider meaning, including adaptation, competition, cooperation, desire, and striving towards a goal. It is paradigmatic that Jason Brown (e.g., 2000) found PG to be a useful theme in this neurobiological theorizing but at the same time used neurological data as a general frame in his picture of human perception and action. Moreover, like Luria he finds

many facets of neuroscientific speculation to be obsolete, e.g., one-sided localisation of mental faculties to certain parts of the brain or treating memory as some sort of reservoir with specific chambers for various kinds of memorizing. This latter caricature of biological thinking is, of course, no suitable partner for dynamic PG theory.

Brown is arguably no reductionist. His perhaps most eloquent book (Brown, 1991) could very well be read as a textbook in psychology. But among psychologists with a psychodynamic leaning there still lingers a hesitation towards any association with neuroscience. At the same time workers using the PG arsenal of methods have extracted many dividends via such associations. Examples, among several others, are studies of demented and other brain-injured people (Johanson, 1991), patients with brain tumors (Lilja, 1992), and patients exposed to organic solvents (Lindgren, 1992). The validity of signs of anxiety in the MCT was proven by means of experiments using brain imaging, i.e., a demonstration that experiences fed by renewed confrontation with these signs corresponded to increased frontal blood flow in the cortex. Such increases had previously been associated with bursts of anxiety (Johanson, Risberg, Silfverskiöld, & Smith, 1986; see also Chapter 9). As already pointed out by Dixon (1971), the most solid proofs of the existence of subliminal perception were neurophysiological. Neurological and mental perspectives can obviously enrich each other without necessarily resorting to causal bridges between them (see also, Carlsson, 1992; Carlsson, Wendt, & Risberg, 2000).

CONCLUSIONS

The practical utility of many PG methods, as illustrated in the following chapters, may tempt us to sacrifice PG theory for the sake of convenience. The applied psychologist thus appeals to the manual in order to find solutions for diagnostic problems. That kind of practice is not recommendable, however. Without theory the clinical psychologist is enslaved by the manual. And where the manual is uncertain the a-theoretical practitioner is totally deserted.

Not even the most ardent advocate of the adaptation of PG methods to practical ends can abjure a theoretical background. Where theory is not ex-

plicit it is very likely to be implicit, unconsciously steering basic assumptions and prejudices. When you have to proceed outside the scope of your manual there is a great risk that you adopt theories foreign to the correct application of PG data. One of the obvious temptations is a variety of stimulus-response explanations, still taught by conservative teachers at our universities.

The present chapter has discussed some possible reference systems. The conventional personality theories, with their background of factorial solutions, were dismissed as insufficient, mainly because they are unable to accommodate process in their universe of reified traits. Not even revised mainstream cognitive psychology, as reflected in, e.g., Stadler and Frensch (1998), seems to be a useful partner. Even if most cognitive psychologists nowadays accept subliminal perception as part of the individual´s information processing, they seem reluctant to regard non-consciousness as, in principle, qualitatively different from consciousness. Moreover, the here-and-now thinking characterizing much of cognitive science, and its therapeutic applications, makes it unsuited to a context where a developmental perspective is a *sine qua non.*

Psychoanalysis was considered as a more serious alternative. For many of the early perceptgenetic researchers it was the only reasonable option; in this respect they differed, indeed, from the original *Aktualgenese* people (see also Chapters 2, 3, 4,). It was no coincidence that defense mechanisms were chosen as the first objects of study. The hypothetical parallel between PGs and life history was given high priority as an object of study. The notion of PGs as rooted in a broad spectre of potentialities, to use Brown´s term, of which only a fraction are actualized, also reflected kinship with psychoanalysis. In this perspective phases in a PG could hardly be described as pale reflections of the end-phase, i.e., of stimulus.

While looking for suitable partners to serve as racks for the stream of fresh discoveries in PG laboratories, one may reasonably ask if PG itself does have enough theoretical depth and stability to accommodate its own empirical data. To be true, PG thinking appears to be the only sensible alternative to a more orthodox form of cognitivism, at least as long as the latter cannot divest itself of the remnants of mechanistic thinking, once inherited from the behaviorism of the early twentieth century. While PG

methods have presented ample proof of their efficiency as diagnostic and prognostic tools PG theory has, at the same time, gradually consolidated its position as the embryo of a full-fledged theory of personality.

According to PG theory, perception is the actualization of the potentialities aroused at each moment of renewed adaptation or growth. The success of the PG methods depends on their incisiveness: they do not merely scratch the surface, or end-product, of adaptive processes but lay bare hidden, preconscious contexts and causations, e.g., the hierarchical organization of early and late, immature and mature in the adaptive arsenal and, concomitantly, the individual's history. One important feature of PG protocols is the early dominance of emotions. At the same time, only emotions can guarantee the inner continuity of PGs, from the seemingly chaotic beginnings to the perceptual end-station. The role of defensive strategies in normal as well as pathological cases and the influence of anxiety on their discharge has been a natural object of study. And these strategies are not seen as extrinsic forces impinging upon the psyche but as intrinsic characteristics of its adaptive landscape.

It has been the pride of present-day personality psychology to be able to demonstrate the stability of traits or factors derived by way of questionnaires. As pointed out previously in the present text a shift from traits to PG processes need not imply that stability is substituted for accidental change or chaos. Endstages in PGs may sway with shifts in the stimulus situation, but in the preceding stages the process characteristics are usually more stable, as demonstrated, e.g., in studies using the Serial Color-Word Test (see also Chapter 11). It was even suggested that individually typical PGs eventually acquire the hallmarks of "standing waves". A systematized description of such waves, a PG phenomenology, is still a task for the future.

The inevitable consequence of the above reasoning is that a PG personality theory should not deal with late phase phenomena, or even with processes compressed because of repetition. Thus much of the psychology of perception is outside the PG province, likewise social psychologies dealing with temporary attitudes, or any psychology lacking an in-depth perspective.

However, the term *percept*-genetic points to a want in the theoretical background of PG, namely it's one-sided emphasis on perception. This is obviously a consequence of the test arsenal. In Brown's (e.g. 2001) writings, for instance, perception and action supplement each other. While perception is finally enclosed by sensual strictures action meets other obstructions in the real world, as the subject sees it. This does not imply that, like late-phase phenomena, action should be excluded from PG theory - it belongs there.

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