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Memories and Traces

From Jewish Exilists' Authoritarian Personality Research via Cloninger's Psychobiology of Personality Traits to a Neurobiological Approach to Conflict Management

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Abstract

Research on personality as a useful construct to understand people's behavior in conflict situations was traced over more than fifty years, and an attempt was made to add neurobiological parameters to psycho-socio-culturel approaches.
As a starting point, scientists in exile have been called to mind who had been expelled from Nazi Germany for their Jewish origins. Among them were Adorno and Frenkel-Brunswik who's extensive studies on the authoritarian personality structure were quoted. In their work, personality was defined as a more or less enduring organisation of forces within the individual helping to determine responses in various situations, which is responsible for consistency in behavior.
As a next step, Cloninger's psychobiology of personality traits was presented. In his personality concept, four temperamental traits (novelty seeking, harm avoidance, reward dependency and persistence) and three character dimensions are included. Temperamental traits are heritable, developmentally stable, emotionally based, uninfluenced by social learning, and linked to specific brain biological features. The temperaments have a certain neuroendocrinological feature which can be determined. Character dimensions develop in a stagelike process from infancy to adulthood and are influenced by temperament, social learning, genetic factors, and random life events.
Personality is still considered a useful theoretical approach to conflict management research and practice. A neurobiological point of view seems to be a useful supplementation in addition to traditional psycho-socio-cultural approaches. Measuring biological compounds can supply the conflict manager with an additional tool of knowledge enhancing the ability to understand and anticipate conflict behavior.

GUEST EDITORIAL

Nichts anderes ist jeder Gedanke
Als das Aufgehen fremder Samen
(Ingeborg Bachmann: Das dreißigste Jahr)

Introduction

The necessity to deal with conflicts in everyday situations as well as in times of great strain is as normal and ordinary in our lives as is cultivating friendly relationships with others. The ability, however, to react adequately in conflict situations may depend, in addition to learning and experiences, on neuroendocrinological properties that seem to be part of one's character and temperament [1].

Recently, Klein und Fedor-Freybergh [2] have summarized the up-to-date complex approach to study human behavior. Adequate understanding of all behavioral mechanisms and their failures is, they have argued, *conditio sine qua non* for the most important task – the prediction of actual behavior resulting from different bio-psycho-socio-cultural sources. They have argued that the wide range of world problems such as wars, criminality, social deprivation, famine, and different catastrophes are transferable into one common denominator: **the failure of man in his behavior.**

Such a catastrophe coming from the failure of man in his behavior in conflict situations in our – German – recent history and the memory of the disaster lead to establishing the Center for Conflict Management at the University of Tuebingen. It was suggested by Miriam Lewin who is the daughter of the well known social psychologist Kurt Lewin (1890–1947). Kurt Lewin was one of so many European inhabitants of Jewish origin, among them many scientists, who were declared for undesirable members of their societies by Nazi regime and were – at best – exiled. Lewin left Germany in 1933, and he was lucky (and young) enough to start a new career in the United States. In his action research, he created a basic ground for conflict management and resolution on which present interventional methods still rely [3, 4].

Though our Center for Conflict Management works, above all, in the tradition of social scientists and arts scholars, we are aware of the (neuro)bio-aspect of bio-psycho-socio-cultural sources of conflict behavior. In the present article, an attempt will be made to trace aspects of early research on conflict management from a sociological and psycho-analytical point of view to a bio-psycho-socio-cultural approach of to-day. To this end, I will refer to results of studies on the authoritarian personality structure undertaken by scientists who had just escaped from Nazi Germany.

Many of those who had experienced the catastrophe in Nazi Germany tried to cope with what had happened to them not only in their private but also in their professional lives. At that time, some of those concerned were already Nobel Prize winners while others had just started their careers. Deportation chosen by the Hitler regime hit all of them hard. Only some of them had the opportunity in exile to continue their work successfully. I will give only a few examples: Out of the many affected Nobel Prize winners, let me remind of two celebrities who have contributed to progress in our ability to investigate the (neuro)biological part of bio-psycho-socio-cultural sources of behavior, and of one celebrity who was involved in peace keeping activities during and after world war two.

The first Nobel laureate to remind of is the physiologist Otto Loewi (*Frankfurt 03.06.1873, +New York, 25.12.1961). He won the Nobel Prize in medicine in 1936 (together with Henry Hallet Dale) for discovering the biochemical transmission of nerve impulses. Loewi saved his live and the lives of his family members after the "Anschluss" of Austria in 1938 only by leaving the Nobel Prize money to Nazi regime. So, he and his family were allowed to emigrate to the United States. From 1940, he was professor at the College of Medicine of the New York University. But there, Loewi was not able to continue his successful work [5].

The second Nobel laureate was Felix Bloch (*Zuerich 23.10.1905, +Zuerich 10.09.1983) who escaped from Nazi-Germany in 1933. When he received the Nobel Prize in physics in 1952 (together with Edward Mills Purcel) for his work on the magnetic moment of neutrons (which was a most important step towards NMR), he was already an American citizen. In Germany, before he emigrated, he had been a well-known specialist for Ferro-magnetism (discovery of the Bloch-Floquet-Theorem). He was offered a professorship at Stanford University in 1934. There, he was able to continue his successful scientific work which was crowned with the Nobel Prize [6].

The third Nobel laureate I want to remind of was James Franck (*Hamburg 26.08.1882, +Goettingen 21.05.1964). He won the Nobel Prize in physics in 1925 (together with Gustav Hertz) for his work on electrons and atoms. He emigrated to the United States in 1933 and, though he worked in the Manhattan Project, he tried to prevent the American Government from using the atom bomb. He wrote a memorandum – the Franck-Report – in which he warned against nuclear arms race. After world war two, he visited Goettingen (Germany) from time to time. This was the place he had been working at for many years before 1933. And there, he died during such a visit in a hotel in 1964 [7].

Two members of the younger generation of scientists in exile, Theodor W. Adorno (1903–1969) and Else Frenkel-Brunswik (1908–1958), will enable me to start tracing aspects of research on conflict management and conflict resolution over time. Adorno left Germany for England in 1934, and left England for the United States in 1938. Else Frenkel-Brunswik left Austria and emigrated to USA in 1938. One of the major points in their research interest was how to predict behavior in conflict situations of national importance. Their starting point – in cooperation with R. Nevitt Sanford and Daniel J. Levinson – was the potentially fascistic individual, one whose personality structure is such as to render him particularly susceptible to anti-democratic propaganda.

Authoritarian Personality Research

The following questions were those, Adorno, Frenkel-Brunswik and coworkers' research [8] was designed to through some light on:

"If a potentially fascistic individual exists, what, precisely, is he like? What goes to make up antidemocratic thought? What are the organizing forces within the person? If such a person exists, how commonly does he exist in our society? And if such a person exists, what have been the determinants and what the course of his development?" [8, p. 2].

The theories that have guided the research are complex and of current interest. I expressly refer to the authors' book THE AUTHORITARIAN PERSONALITY [8], published in 1950. In the following, some points will be summarized to give an impression of their ideas:

Adorno *et al*. have distinguished between stages of behavior in conflict situations. Opinions, attitudes and values which are expressed more or less openly in words are psychologically "on the surface". "But there may be a discrepancy between what a person says on a particular occasion and what he really thinks. What he really thinks he can express in confidential discussion with his intimates. It is to be recognized, however, that the individual may have secret thoughts which he will under no circumstances reveal to anyone else if he can help it; he may have thoughts which he cannot admit to himself, and he may have thoughts which he does not express because they are so vague and ill-informed that he cannot put them into words. To gain access to these deeper trends is particularly important, for precisely here may lie the individuals' potential for democratic or antidemocratic thought and action in crucial situations" (p. 4).

On the assumption that what people say and, to a lesser degree, what they really think depends very largely upon the climate of opinion in which they are living, Adorno *et al*. [8] pointed to the observation that, when the climate changes, some individuals adapt themselves much more quickly than others. Individuals differ in their susceptibility to antidemocratic propaganda and in their readiness to exhibit antidemocratic tendencies. If an individual is making antidemocratic propaganda or engaging in overt attacks upon minority group members, it is usually assumed that his opinions, attitudes, and values are congruent with his action; but another individual may express antidemocratic ideas verbally but does not put them into overt action. It is, according to Adorno *et al*., a question of potentialities, and people differ in these potentialities.

"What the individual consistently says in public, what he says when he feels safe from criticism, what he thinks but will not say at all, what he thinks but will not admit to himself, what he is disposed to think or to do when various kinds of appeal are made to him – all these phenomena may be conceived of as constituting a single structure. The structure may not be integrated, it may contain contradictions as well as consistencies, but it is *organized* in the sense that the constituent parts are related in psychologically meaningful ways.

In order to understand such a structure, a theory of the total personality is necessary... personality is a more or less enduring organization of forces within the individual. These persisting forces of personality help to determine response in various situations, and it is thus largely to them that consistency of behavior – whether verbal or physical – is attributable. But behavior, however consistent, is not the same thing as personality; personality lies *behind* behavior and *within* the individual. The forces of personality are not responses but *readiness for responses*..." [8 p. 5].

The task of diagnosing potential fascism and studying its determinants required techniques especially designed for these purposes. Two main approaches were used: *The Questionnaire method,* and *Clinical techniques.*

Questionnaire method consisted of

1) factual questions that had to do mainly with past and present group memberships like church preference and attendance, political party, vocation, income, and so on;
2) opinion-attitude scales which were used to obtain quantitative estimates of certain surface ideological trends like anti-Semitism, ethnocentrism, politico-economic conservatism. Later the scale was developed for the measurement of antidemocratic tendencies in the personality itself; and
3) projective (open answer) questions which presented subjects with ambiguous and emotionally toned stimulus material [8, p. 13–16].

Clinical techniques consisted of

1) the interview which was divided roughly into an ideologic section and a clinical-genetic section. The method they have chosen was relying on Freud; and
2) the Thematic Apperception Test which is a projective technique in which the subject is presented with a series of dramatic pictures and asked to tell a story about each of them.

The interview material was used for estimation of certain common variables lying within the theoretical framework of the study but not accessible to the other techniques. Interview material also provided the main basis for individual case studies, baring upon the interrelationships among all the significant factors operating within the antidemocratic individual [8, p 16, 17]

Results of their investigations with hundreds of people over a period of more than a decade were complex, and it is beyond the scope of this article to report them. Here I only want to quote some sentences from their conclusions:

"The most crucial result of the present study, as it seems to the authors, is the demonstration of close correspondence in the type of approach and outlook a subject is likely to have in a great variety of areas, ranging from intimate features of family and sex adjustment through relationships to other people in general, to reli-

gion and to social and political philosophy. Thus a basically hierarchical, authoritarian, exploitive parent-child relationship is apt to carry over into a power-oriented, exploitively dependent attitude toward one's sex partner and one's God and may well culminate in a political philosophy and social outlook, which has no room for anything but a desperate clinging to what appears to be strong and a disdainful rejection of whatever is relegated to the bottom..."

Conventionality, rigidity, repressive denial, and the enduring break-through of one's weakness, fear and dependency are, according to Adorno *et al*., but other aspects of the same fundamental pattern of the authoritarian personality, and they can be observed in personal life as well as in attitudes towards religion and social issues.

"On the other hand, there is a pattern characterized chiefly by affectionate, basically equalitarian, and permissive interpersonal relationships. This pattern encompasses attitudes within the family and toward the opposite sex, as well as an internalization of religious and social values. Greater flexibility and the potentiality for more genuine satisfaction appear as results of this basic attitude" [8, p. 971].

Adorno, Frenkel-Brunswik and coworkers were convinced that considering biological factors was not necessary to understand personality and to explain and predict behavior, and they found their conception of personality structure being the best safeguard against the inclination to attribute persistent trends in the individual to something "innate" or "basic" or "racial" within him. "The Nazi allegation that natural biological traits decide the total being of a person would not have been such a successful political device had it not been possible to point to numerous instances of relative fixity in human behavior and to challenge those who thought to explain them on any basis other than a biological one" [8, p. 6].

Cloninger's psychobiological model of temperament and character

In the eighties of the last century, more than a generation after Adorno, Frenkel-Brunswik and coworkers had sampled their data, and after neuroscience had made essential progress, C. Robert Cloninger from the Department of Psychiatry and Genetics at Washington University School of Medicine in St. Louis, Missouri, started a series of publications on personality which explicitly included biological factors. It was at the time when Donovan [9] complained that, though hormones greatly influence behavior, yet modern textbooks on personality may contain no reference to the real world as represented by the endocrine system, or to hormones – the products of endocrine gland activity. This, he stated, is remarkable, particularly when it is realized that personality is taken to refer to the distinctive patterns of behavior, including thoughts and emotions, that characterize adaptation to the variety of situations that an individual might encounter from day to day, and in which hormonal changes are especially marked [9, p. 5].

Cloninger has proposed a psychobiological model of temperament and character which includes four dimensions of temperaments – novelty seeking, harm avoidance, reward dependency, and persistence – and three dimensions of character – self-directedness, cooperativeness, and self-transcendence. In his model, these seven components constitute human personality [10]. The dimensions of temperament are defined as those components of personality that are heritable, developmentally stable, emotionally based, uninfluenced by sociocultural learning, and linked to specific brain biological features. This was revealed by genetic, neurophysiological and neuroanatomical studies.

Character dimensions develop in a stagelike manner from infancy through adulthood. Transitions between levels of maturity in character and social skills are nonlinear functions of temperament, social learning, specific genetic factors and random life events [1].

Originally, the model included three dimensions of temperament – *novelty seeking, harm avoidance, and reward dependency*, and Cloninger's Three-dimensional Personality Questionnaire (TPQ) is still extensively used in various areas including neurobiology, psychiatry and psychology.

Gerra, Zaimovic, Timpano, Zambelli, Delsignore and Brambilla [11] have summarized neurobiological outcome concerning Cloninger's model as follows: *Novelty seeking* is a personality dimension defined as a compulsive need for varied, novel and complex sensations with the willingness to take physical and social risks for the sake of such experience. According to Zuckerman [12], the sensitivity to only emotional overstimulation seems to be due to a higher arousal threshold. Mesolimbic and mesofrontal dopaminergic projections might be involved in incentive activation of novelty seeking. This trait could be genetically determined and, in particular, could be associated with the DRD4*7R allele at the D4 dopamine receptor locus [13] however see: [14]. Cloninger [13] and Ruegg [15] found novelty seeking is positively correlated with density of the dopamine transporter responsible for the presynaptic reuptake of dopamine, higher levels of novelty seeking being linked to reduced dopamine release from presynaptic neurons and compensatory increased sensitivity of postsynaptic DA receptors. Others [16] found, in addition, novelty seekers have high dopamine and low serotonin functions. Gerra *et al*. [17] found positive correlations between novelty seeking scores on Cloninger's Three-dimensional Personality Questionnaire and norepinephrine, prolactin, and testosterone baseline plasma levels in healthy subjects.

According to Gerra *et al*. [11], *harm avoidance*, or behavioral inhibition, seems to be associated with serotonin function, high harm avoidance scores being related to high serotonin release from presynaptic neurons and with postsynaptic serotonin receptor down-regulation. Alterations of serotonin transporter gene have been found involved in the biological impairments underlying harm avoidance alterations [15]. In their

own study, challenging the monoamine systems with agonists in healthy subjects, Gerra *et al*. [11] showed a direct correlation of harm avoidance with serotonin function.

Reward dependency is associated with the formation of conditioned signals of reward. This temperament trait seems to be linked to norepinephrine function; low levels of urinary 3-methoxy-4-hydroxy-phenylglycol (MHPG) having been reported in subjects with high reward dependency, while a supersensitivity of alpha-2-adrenoceptors, deriving from decreased NE secretion, has been observed in low reward dependency individuals, see [11]. Cloninger [1] has reported *reward dependency* is positively correlated with the ability of serotonin to stimulate the ritanserin-sensitive formation of inositol monophosphate in platelets.

Bond [18], in a recent review article on neurotransmitters, temperament and social functioning, found substantial evidence now exists to support a psychobiological model as proposed by Cloninger. However, specificity of his theory has not always been confirmed.

Cloninger's research was concerned with clinical populations, especially with alcoholics. This must be kept in mind when considering his neurogenic model which describes behavior related to temperament traits and character as follows:

Novelty seeking behavior can be looked at as lying between the two extremes deliberate and impulsive with a clear direction of impulsiveness with the tendency of the affected person to be an adventurer, euphoria-seeking.

Harm avoidance behavior can be looked at as lying between being cautious and risk-taking with a clear direction of being cautious with the tendency to a worrier type, anxiety-prone.

Reward dependency behavior can be looked at as lying between friendliness and aloofness with a clear direction of friendliness, also with the tendency to a worrier-type, anxiety-prone.

Character of the *adventurer-type* (novelty seeking behavior, serotonergic deficit) is described as socially hostile, in addition to uncooperativeness involving lack of empathy, social tolerance, compassion, and moral principles.

Character of the *worrier-type* (harm avoidance and reward dependency behavior, dopaminergic deficit)) is described as social dependent, and being related to empathic and compassionate behavior with high amount of cooperativeness in contrast to antisocial and vengeful behavior with low level of cooperativeness in the adventurer-type.

According to Cloninger, the deficit in character and social skills has been consistently associated with deficits in serotonergic neuroregulation, including decreased availability of the serotonin precursor tryptophan, reduced serotonin concentrations in platelets and low cerebrospinal fluid levels of 5-hydroxyindoleacretic acid, which is highly correlated with serotonin metabolite levels in frontal neocortex. On the other hand, while low reward dependency and impulsive-aggressive traits increase the risk of uncooperative character, the correlation of uncooperativeness with any of the temperamental antecedents is not strong [1, p. 624].

A neurobiological approach to conflict management

From the viewpoint of conflict management, Cloninger's [1] work on the psychobiological regulation of social cooperation is especially supporting the view that the "bio"-part of bio-psycho-socio-cultural sources of human behavior should be included in theory and practice of conflict behavior. Adorno, Frenkel-Brunswik and coworkers' warning against misusing biological findings should nevertheless be kept in mind. If Cloninger's findings of a close relationship of deficits in social skills to alterations in biochemical compounds also applies for healthy subjects, measuring biological parameters can be an important additional tool of knowledge for conflict managers.

In traditional conflict management research and practice, the personality construct is still considered a useful theoretical approach [19, 20]. A neurobiological point of view, however, seems – to the present authors' knowledge – non existant.

With respect to personality, Sandy, Boardman and Deutsch [19] have reviewed the role of individual differences in personality and their implications for understanding personal reaction and behavior in conflict situations. They covered ideas relevant to conflict from several non-biological theoretical approaches – psychodynamic, need, social learning, and situation-person-interaction. The collected data were interpreted as indicating personality theory and assessment enhances conflict resolution in practice. Specific personality types frequently show similar problems in conflict management, in their unconscious motivation, and in the type of conflict resolution strategy they use to handle conflict situation. Awareness of these patterns helps the conflict resolution practitioner anticipate problems in the negotiation process, intervene effectively, build better communication between negotiating parties, and assist negotiators to a satisfactory and lasting settlement. This knowledge helps the conflict resolution practitioner uncover the driving forces behind certain locked positions, such as inability to make or commit to an agreement. Understanding personality needs may be a key factor in resolving some supposedly intractable conflicts and in creating a stable, long-term solution [19].

According to Cloninger's understanding of personality, i.e., temperament traits and character dimensions [1], one would like to discover possible differences between novelty seekers and subjects high in harm avoidance and high in reward dependency with respect to conflict behavior. Are subjects high in reward dependency more interested than novelty seekers in problem-solving strategies to conflict solutions, i.e., do they pay more attention to interests of both sides and do they use more often peaceful strategies? Are there differ-

ences between the groups in the use of language for conflict solutions? Are there differences in the kind of conflicts they use to be confronted with? And are there differences in frequency, level of difficulty and duration of conflicts? And if differences between the three groups exist, are biological parameters better indicators of conflict behavior than are test scores on temperament scales? – These seem to be but some of the questions to be answered in approaches that include the "bio" aspect to bio-psycho-socio-cultural investigation of conflict behavior.

If we assume measurement of biological compounds can supply the conflict manager with an additional tool of knowledge enhancing his/her ability to understand and anticipate conflict behavior, than he/she would need biological tests which could be applied easily. But to this end there is a long way off. By now, the results of studies on neurotransmitters, temperament and social functioning [18] are still controversial. Cloninger's findings [1], however, indicate that serotonin, dopamine and norepinephrine might play a role. Measuring these compounds in exploratory studies could serve as a starting point.

Natural sciences like physics and chemistry have traditionally been intimately linked to conflict research and management as have been social sciences; and memory of the Nobel laureate and physicist James Franck in the introduction has already acknowledged this. Future research will show whether neurobiology can serve as combining these two scientific approaches to conflict behavior.

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