Functional Analysis in Behaviour Therapy

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Keywords
Functional analysis · Cognitive behavioural treatment · Intrapsychic functions · Interpersonal functions · Behaviour analysis

Summary
The functional aspect of psychiatric disorders is an integral part of all behavioural therapy approaches. However, these approaches vary considerably regarding the aspects to be put in the focus of functional analysis. Particularly the teleological view of symptoms, i.e., the instrumental function of problematic behaviour, has proven to be helpful for the understanding and modification of symptoms. The present publication gives an overview of functional analysis in the tradition of cognitive behavioural treatment as well as in new approaches representing the so-called Third Wave of behavioural therapy. Furthermore, different interventions are described for the identification of functional relationships to be applied in the psychotherapeutic process.

Introduction
‘If one succeeds in giving meaning ... to a seemingly incoherent will ... and bringing out its hidden coherence, this means an increase in free will’ [Bieri, 2003].

Mr. M. knows that every visit to a café and every purchase is a challenge for him, because ‘it’ could happen. ‘It’ is a tremor of the hands, which for the 42-year-old optician is an expression of personal failure, because he believes that others think him ridiculous and neurotic. So he completely avoids going out in public and has been unable to work for 2 years. He only buys something if his wife pays; he eats and drinks only at home. The fear of shaking began when an attractive young woman, whose acquaintance he avoided making out of an obligation to marital fidelity, several times visited the optical business where he worked. He found himself fearing that he would tremble while fitting her eyeglasses; this fear was then increasingly generalized to other situations. In the meantime, because his fears are so wide-ranging, he spends his time almost exclusively with his wife; but she is quite domineering, and he feels that he is often treated in an overbearing and disrespectful way. But she provides him with security and, despite his difficulties, he does not want to break up with her.

Schlüsselwörter
Funktionsanalyse · Kognitive Verhaltenstherapie · Funktionalitäten · Verhaltensanalyse

Zusammenfassung
Reading vignettes like this often inspires one to draw causal conclusions and attribute a teleological function to the problem behaviour. Thus the symptom would be a dysfunctional way to block the desire for contact with the attractive stranger, which the man rejects as immoral, or an unconscious attempt by a submissive man to set boundaries. Although we don’t want to jump to conclusions, but rather to obtain more information and make personal contact with Mr. M., to give us a more complete picture, thinking in terms of causal hypotheses still comes very naturally.

Functional analysis of psychological symptoms has a long tradition in behavioural therapy, summarized in what follows, to enable us to take the next step based on specific tradition in behavioural therapy, summarized in what follows, to enable us to take the next step based on specific methods and more fine-tuned models. The concluding discussion looks at potential further developments of functional analysis, including the more recent approaches of behaviour.

Functional Analysis in the Tradition of Behavioural Therapy

The embedding of human behaviour in a conditional structure is a principle of behavioural therapy. This seems intuitively plausible: No action takes place of its own accord, as if in empty space. The question of the usefulness of behavioural patterns for survival and adaptation to the environment goes back to Darwin; the more recent roots of behavioural therapy are to be found, however, in functionalism, which developed as a counter-movement to structuralism, mainly under the influence of Wundt [1832-1920] at the beginning of the 20th century in the USA. Thus a structuralist looking at a 5-year-old boy’s temper tantrums would traditionally want to start by investigating which internal structures the child still lacks for mature emotional expression, while the functionalist would stress the instrumental focus of the tantrum under the given circumstances. Behaviourism in its early stages addressed this functional aspect of behaviour by detecting observable patterns between the situational conditions of the environment (the independent variable) and behaviour as the dependent variable [cf. also Sturmey et al., 2007].

Although meanwhile significant advances have been made in the behaviourist approach, the question still arises: Under what conditions does a disorder emerge, according to behaviour analytic diagnostics, in the context of functional analysis? The goal of the analysis is to understand a patient’s individual problems and to identify points of intervention to change them. Yomlan [2008] points out that the functional analysis of problem behaviour first creates a framework for case formulation and is essential for matching up diagnosis and intervention. Similarly, Sulz et al. [2011] design the functional approach as the ‘genuine behavioural therapeutic core of behavioural analysis’, and Wassmann [2006] appreciates it as an indicator of the quality of a problem analysis.

Principles of learning theory are the basis for the functional observation that can identify the occurrence of behavioural patterns. While it is often a matter of respondent behaviour acquired through classical conditioning, often innate reflexive reactions with strong physiological components (e.g., an autonomic fear response to originally neutral situations), operant problem behaviours entail pleasant consequences, either through positive reinforcement (e.g., attention) or negative reinforcement (e.g., reduction of tension). Discriminative cues also play a key role in the function of a behaviour (e.g., certain places, the presence or absence of relevant persons, etc.) and thus provide information as to whether the particular behaviour also leads to the learned consequence. This may be explicitly conscious, but need not be.

Just like operant behaviour, respondent behaviour also has a function; one thinks, for example, of a conditioned fear response that delivers a rapid surge of energy.

In the classical SORC model, both learning mechanisms are illustrated: Control of behaviour (R) occurs because of the preceding stimuli (S), in terms of respondent behaviour through classical conditioning (S → R), and/or by subsequent consequences in terms of operant conditioning (R → C). The regularity of the connection between S and C is also important for the development and maintenance of behaviour, such as when the negative reinforcing effect of a particular behaviour is lacking in some situations [Lindsley, 1964]. A central role is played by the organism variable (O), first mentioned by Skinner [1953], which stands for the characteristics of the reacting person and which mediates the very specific reaction R to stimulus S due to the situational (e.g., fatigue) or persisting (e.g., dysfunctional assumptions) conditions of learning history and biology.

During the historical development of observable aspects of behaviour reflecting internal processes, such as emotions, cognitions, plans and values, the conditions under which the behaviour occurred are eventually more clearly illuminated, so that not only directly observable reinforcement processes, but also individual processes of perception and internal processing, were recognized as meaningful for maintaining or avoiding behaviour [Bartling et al., 2007]. Although behavioural therapy has made significant advances since the SORC model was conceived, the procedure is still considered the key method for opening up the individual conditional structure of a behaviour, with all the relevant variables [e.g., Tuschen-Caffier and von Gemmeren B, 2009; Reinecker and Gmelch, 2009; Neudeck and Mühlig, 2013].

One classical model describing functional relationships is Mowrer’s [1947] two-factor theory, according to which fears and obsessions or compulsions are acquired through classical conditioning (e.g., linking of crowded places with feelings of anxiety) and subsequently maintained through operant conditioning (e.g., instrumental avoidance of crowded places as a conditioned stimulus to prevent the original unconditioned stimulus of anxiety and fear). Avoidance behaviour or OCD would be a function; one thinks, for example, of a conditioned fear response that delivers a rapid surge of energy.
Fig. 1. Example of the emergence of functional relationships: A reinforcing behaviour is operatively aimed to bring about expectations in the future. Rituals thus acquire a function by temporarily reducing tension, although they contribute in the longer term to maintaining the anxiety.

Frequently operant learning processes are also generalized to similar stimuli, so that the same behaviour is used functionally for several internal or external triggers.

An example will illustrate this: A patient with generalized anxiety disorder developed massive reassurance tendencies in order to assure herself that all her family members, after leaving home in the morning, had really ‘arrived, safe and sound, at school and the office’. The short-term sense of satisfaction and physical relaxation that she experienced the first time she brought a forgotten snack to her daughter at school, led to reassurance behaviour (e.g., ‘randomly’ passing by the school playground on a shopping trip) becoming an integral part of every morning’s routine. The relaxation caused by the sight of her daughter, safe and sound, was at first more of a by-product of the duty she performed, but she later started to use this behaviour on a regular basis, in order to overcome her morning anxieties.

Figure 1 shows schematically the development of a functional relationship in a learning process.

If one wishes to figure out the function of a behaviour as part of a diagnostic process, it is essential to identify functional relationships. A particular variable is then always functionally relevant if the character of another variable – its appearance, intensity, duration, expression, etc. – varies according to the characteristics of this independent variable, such as in its intensity or incidence. This appears quite comprehensible in the simplified example of patients, but usually requires deeper consideration on several levels, as the following discussion will make clear.

Kanfer and Schefft [1987] described the formulation of a functional analysis model as an important element in the therapeutic process, which is the third step of their 7-phase model, after having identified areas of change, and which is preceded to the agreement on therapeutic goals. Using functional analysis, the goal is to work through the various problems at all levels – i.e. to analyze the patient’s specific behaviour in individual situations, his overriding rules, goals and plans, as well as in a social context with the inherent rules of the system in their situational and biographical interdependence, and on that basis to develop a hypothetical analytical model. It is no easy undertaking; however, as experience has shown, it may be helpful at this point in the therapeutic process, because it is of great importance not only for therapeutic clarification, but also for the accurate identification of relevant areas for change.

### The Teleological Aspect in Functional Analysis

Some authors, although not all, now explicitly distinguish between 2 different types of disturbance factors: On the one hand are the causal, triggering and maintaining cognitive, emotional, physiological and social factors that are responsible for the development and persistence of symptoms (the ‘why’ of the disorder); on the other hand there is the function, which describes the intra-psychic and interpersonal effects of the symptom (the ‘for what’ of the disorder) [e.g., Hand, 1986; 2008].

While the former factors have entirely the character of an independent variable with respect to the problem, the function of a symptom also bears on the teleological aspect. So, for example, dysfunctional thought patterns such as all-or-nothing thoughts or perfectionism, in a patient with eating disorders, could represent maintaining factors, while a major function of the symptoms could be to boost self-esteem.

Psychoanalysis classifies mental disorders in its conflict model with the concept of primary gain from the reduction of psychological conflict, and secondary gain as external benefits brought about by the disorder, traditionally of a functional character. Both concepts are interpreted as external benefits of the illness. However, these external benefits are mostly understood only as maintaining factors, while the main cause is seen in largely unconscious efforts at conflict resolution.

In his behavioural diagnostic process model, Sulz [1987] preceded conditional and functional analysis with problem analysis, situational analysis and functional analysis. Then, conditional analysis seeks to find the preceding, triggering and maintaining stimulus conditions, functional analysis addresses the instrumental aspect of the symptom, in the narrower sense. Following Hand [1986], such analysis seeks to determine, on the intra-individual level, whether the symptom is something that should be corrected directly, an expression of a psychiatric or somatic illness which should not be treated with behavioural therapy; an attempt to compensate for a higher-grade disorder (e.g., OCD symptoms in schizophrenia) or an indication of serious errors in life choices.
actional level, consideration should be given to whether the symptom serves, e.g., as an instrument of power, an alibi, a call for change or, contrariwise, as a stabilizer to prevent changes in the family system.

Hand, in his 2008 work on systemic-strategic behavioural therapy [Hand, 2008], differentiates between conditional factors and functionality by using the concepts of unidirectional causality (magnitudes of influence on the illness behaviour, which are not significantly determined by it) and circular causality (direct repercussions of the illness behaviour itself on the individual, or repercussions mediated by the environment). As Hand emphasizes, it seems reasonable here also to distinguish between historical and current functionalities of a symptom. He also considers it reasonable to make a subdivision between functional variables that are known and those that are not known (appellative behaviour). The latter point, however, refers less to unconscious motivations as understood by depth psychology, but rather to a pragmatic, heuristic way of opening up new insights by ‘speculative-creative’ confrontation with unknown behavioural intentions. According to Hand, hypotheses about existing functionalities can be tossed out to the patient like ‘balls’, which the person can either accept or reject. The traditional systemic approach here offers interesting starting points, in that symptomatic behaviour can be seen as subjective problem solving within a difficult interpersonal constellation.

In addition to the aforementioned, there are still other conceivable categories of functions (table 1).

### Functional Analysis: Between Description and Interpretation

Carefully studying the recent literature on functional analysis in behavioural therapy, it is notable that an enormous heterogeneity prevails in the definitions and implementation of the therapeutic process.

However, this need not be a disadvantage, since we are dealing with a very multi-faceted process, which fits into an overall picture only by taking account of varied perspectives. A categorization of certain approaches as applicable and otherwise might result in a systematization that would allow the fact that any description whatsoever of a particular event inevitably occurs from a particular theoretical perspective [cf. Bunge, 1967]. Yoman [2008] recommends a functional analytical process in 7 steps to identify the conditional structure of a problem behaviour and to derive specific interventions. This structure is schematically illustrated in a flow chart. Thus, for example, only by closer inspection one can find out that the undesirable behaviour persists primarily because the more sensible behavioural alternative is linked to aversive stimuli. In this case it would be important to reduce the penalty function in order to achieve the desired behaviour. In couples therapy, for example, it could be significant that one partner always turn on the TV when the two are together, preventing a sense of intimacy. But if he has repeatedly had the experience that his partner always complains when they together, he might no longer seek out conversation and prefer watching TV, even if that means suffering from isolation.

A detailed analysis at the micro level proves rewarding, particularly to increase the likelihood of the desired behavioural modification through optimization of environmental conditions or to identify efficient target behaviours more precisely. As soon as one approaches the overall picture of a disorder, along with its intra-psychic processes, from the situational-descriptive point of view, one inevitably depends on hypothetical assumptions and interpretive conclusions, since the consideration of mental disorders and associated problem areas ultimately allows only for probabilistic statements about causal relationships [Haynes and O’Brien, 1990]. For example the tendency for ‘skin-picking’ by a patient in a family conflict situation suggests that the dermatillomania serves to reduce tension if it occurs out of sight of the conflict-partner, and the patient experiences emotional relief. If the symptom usually occurs in the presence of the conflict-partner, who then reacts with concern and attentiveness, the hypothesis of an apppellative function could be pursued in more detail. However, it may appear plausible, upon further exploration, that the patient’s compulsive skin-picking in primarily an intrapsychic protection mechanism, by means of which she shifts her attention from the aversive conflict situation to the trance-like hunt for skin blemishes. At the same time it is likely that a more thorough study of the patient’s intra- and extra-familial socialisation and the resulting attitudes and values would bring to the fore quite different and significant learned features, which constitute the ‘breeding ground’ for the symptoms. Indeed, complex interactions among different, concurrently applicable factors within the patient’s social microcosm are more the rule than the exception. In addition, often comorbidities with other symptoms, that interact functionally with one another, should be considered.

Patzek [2009] rightly points out that recourse to intuitive-emotional decisions becomes more likely as the complexity of a system grows. Related to this are selective perceptual processes, simplistic mono-causal explanations and disregard of the chance nature or the natural dynamics of events. What

<table>
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<th>Table 1. Possible dimensions of functions of symptom</th>
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<tr>
<td><strong>Interpersonal</strong></td>
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<td><strong>Intrapersonal</strong></td>
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<tr>
<td><strong>Conscious</strong></td>
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<tr>
<td><strong>Unconscious</strong></td>
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<tr>
<td><strong>Compatible values (intra-individual)</strong></td>
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<td><strong>Incompatible values</strong></td>
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<td><strong>Short-term</strong></td>
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<td><strong>Long-term</strong></td>
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<td><strong>Historic</strong></td>
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<tr>
<td><strong>Current</strong></td>
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<tr>
<td><strong>Approach-oriented</strong></td>
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<tr>
<td><strong>Avoidance-oriented</strong></td>
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<tr>
<td><strong>Socially accepted</strong></td>
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<tr>
<td><strong>Negatively sanctioned</strong></td>
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<tr>
<td><strong>Idiosyncratic</strong></td>
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<tr>
<td><strong>Common, archetypal</strong></td>
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<tr>
<td><strong>Abstract</strong></td>
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<td><strong>Situationally specific</strong></td>
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Functional Analysis in the Treatment Process

Because newer diagnoses (e.g., ADHD) are gaining in importance and there is greater need for economy of time as well as structured interventions that are also tailored to the individual needs of those affected, a functional analysis that is as comprehensive as possible and simultaneously time-efficient appears more necessary than ever.

Information sources for functional analysis are usually primarily patient descriptions in clinical interviews and observations by the patient and others. Behavioural protocols have also proven useful, as they allow the specific description of symptomatic behaviour in everyday situations. For the amnestic recording of functionalities, graphic representations are also recommended, listing relevant life events and conditions at the time of symptom onset.

Questionnaires and behavioural inventories are also available for particular problem areas. Among these are the Motivational Assessment Scale (MAS) [Durand and Crimmins, 1992] and the Questions About Behaviour Function (QABF) Scale [Matson and Volmer, 1995; Matson et al., 2012; Bienstein and Nussbeck, 2009], which were originally designed for people with mental disabilities. The MAS, for example, used a 7-point Likert scale with 16 items to assess 4 functions of behaviour (sensory stimulation, escape, gaining social attention, acquiring something specific). However, it should be noted that questionnaires only offer a very specific approach to the problem and cannot entirely replace direct observation. Notably in the area of auto-aggressive behaviour, several studies have attempted to assess the functions of self-injury, through various survey instruments (self-reports, laboratory tests). In an article reviewing 18 studies [Klonsky and Mühlenkamp, 2007], self-punishment proved to be the most important function of self-injurious behaviour, while only modest evidence was found for anti-dissociative and anti-suicidal functions, as well as so-called sensation seeking and the need to set interpersonal boundaries or to exert influence. The authors call attention to the initial results, according to which different functions of self-injurious behaviour should have different clinical implications (e.g., level of suicide risk), and therefore should provide important evidence for differential interventions. Recently a questionnaire for functions of symptoms was developed and validated for obsessive-compulsive disorder in a sample of 120 patients (Patricia Kulla, data so far unpublished). Factor and item analysis of the data yielded 5 areas of functions: stabilization of self-esteem and achievement, emotion regulation, protection from responsibility, interpersonal regulation and obsession/compulsion as occupation. The particular assessment of the relevant areas can provide valuable starting points; however, the individual meaning in the context of a person’s life should in any case be taken into account.

The relevance of functionalities has been pointed out many times in the context of obsessive-compulsive disorder [Ecker, 2005; Baumeister and Angenendt, 2007]. OCD therefore also seems virtually predestined for consideration in terms of functions of symptoms, because here mental events and behaviours manifest themselves contrary to the person’s own value system and/or better judgment, and therefore generate special explanatory requirements in those affected. The two-stage model of Hoffman and Hofmann [2008] is an impressive model of functions in OCD, one often found helpful by those afflicted; a seemingly insoluble problem is symbolically moved from the ‘stage of life’ (e.g., the effort to gain independence from a domineering spouse) to the ‘auxiliary stage’ of OCD (e.g., contamination fears, with excessive washing and disinfecting rituals throughout the home). In our own study [Külz et al., 2010], we evaluated the treatment records over a 7-year period of all inpatients with newly diagnosed OCD at the Department of Psychiatry and Psychotherapy of the University Hospital of Freiburg, for the above-mentioned functionalities. 63% (n = 168) of the reports contained explicit information about these functionalities of OCD symptoms, and in 53% of these, according to the clinicians doing the evaluations, the symptoms served the function of affect regulation. On an interpersonal level, the desire for differentiation and autonomy was particularly common (42%).

Looking at functional analysis, several aspects of the therapeutic process can be identified, of which these are the 4 key areas:

- **Expansion of perspective and insight into the problem** by identification of an actively formative role of the symptom;
- **Emotional relief** for the patient by illumination of validation of the problem behaviour and its meaningfulness in the context of his or her individual life;
- **Identification of relevant therapy goals** and the content of the therapeutic regimen by definition of associated problem areas;
- **Increased compliance and prevention of non-response or relapses** because of conscious and unconscious resistance to improvement of the symptom.

This makes it clear that functional analysis is already highly significant in the first stages of the therapeutic process: Only if the problem behaviour is made comprehensible, in discussion between patient and therapist, can the basis for a trusting therapeutic alliance be created. Similarly, individual motivation to change and the relevant goals are first fully developed by taking into account a symptom’s function.

Hayes and Follette [1992] already pointed out 20 years ago that classical diagnostics, which puts the focus on symptoms but not on the function of a behaviour, ultimately falls short...
Table 2. Detections of functionalities in psychotherapy

<table>
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<tr>
<th>Key questions</th>
<th>Examples of intervention possibilities / sources of information</th>
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<tr>
<td><strong>Micro level</strong></td>
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<tr>
<td>What effect does the patient have on me? What interactional characteristics might be significant for the problem?</td>
<td>Interational behaviour of the patient (appearance, non-verbal communication in facial expressions and gestures).</td>
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<tr>
<td>In what situations does the problem behaviour most frequently occur? Which preceding and subsequent factors are identifiable?</td>
<td>Behavioural protocols, self-assessments and assessments by others, possible inventories depending on the symptom.</td>
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<tr>
<td>How are the situation and the problem behaviour interpreted by the patient?</td>
<td>Treatment according to the ABC model [Ellis, 1993] or as part of a situational analysis [McCullough, 2006]; symbolic representation of the situation, embodiment [cf. e.g., Hauke, 2013]; artistic representation of the problem (e.g., as a picture or collage).</td>
</tr>
<tr>
<td>What alternative assessments and modes of reaction could be envisaged? What problems might arise for the person because of the alternative behaviour?</td>
<td>Example of a ‘miracle question’ [de Shazer, 1989]: ‘Imagine you go to bed tonight, and a miracle takes place. The miracle is the solution to the problem. But you might not know that a miracle has occurred, because you are asleep. How would you notice that a miracle had happened? What would your day look like? What would be different? How would others notice that the miracle had taken place?’ Example of a ‘good fairy’: ‘Imagine that a good fairy comes to you. What would happen if symptom X immediately disappeared?’ In what areas of your life would you perceive change? What desired changes would there be? Would there also be undesired changes?</td>
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<tr>
<td>How would people in your social environment behave if the problem behaviour disappeared / were replaced by alternative behaviour?</td>
<td>Flashcards with examples of different interactional functionalities (conceptual, symbolic); the patient selects.</td>
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<td>Is the problem behaviour positively or negatively reinforced in the given situation? What short- and long-term positive and negative consequences arise from the problem behaviour?</td>
<td>Four-field schema; where appropriate, joint development of the SORC model.</td>
</tr>
<tr>
<td><strong>Macro level</strong></td>
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<td>When did the problem behaviour first arise, under what circumstances? When it recur, in what type of life situation? Are there any similarities between these life situations or special challenges (e.g., period of upheaval, loss, conflicts, failures)?</td>
<td>Assessments by oneself and others; graphic illustration (biographical trajectory of the disorder with relevant stages and symbols of contextual aspects relevant to the disorder). The symptom as a personalized ‘companion’ (pet, monster, gremlin, etc.). What has it ‘preserved’ for me in the past; what has it deprived me of? [e.g., Wengenroth, 2012] Fantasy journeys / imagining a different life history: Who would I have become without my problem? What obstacles and opportunities would have arisen?</td>
</tr>
<tr>
<td>What significance did the problem behaviour have in each phase of life? What significance does it have in retrospect?</td>
<td></td>
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<tr>
<td>What alternatives would the person have had, to deal with the challenges at those times? Were the necessary resources available? What difficulties could have arisen from the alternative behaviour?</td>
<td></td>
</tr>
<tr>
<td>Did the problem behaviour have any advantage for the person at the time? If so, what?</td>
<td>Search for hidden plans [Caspar, 2007a]</td>
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</table>

of understanding and being able to modify behaviour patterns. Yoman [2008] similarly argues that functional analysis permits much more specific statements about an individual’s problems than does a DSM-IV diagnosis. Giving further thought to this approach, as Cone [1997] developed it, as an alternative to existing classification systems, certain behaviour patterns could, for example, be subsumed under a major category in order to gain attention, while another category includes behaviour patterns that involve the avoidance of aversive experiences. The assumption that some behaviours have to be placed in different categories simultaneously, and that the classification, despite the best efforts at objectification, ultimately retain a hypothetical character, gives rise to doubt, however, about the clarity and practicality of such a system. In addition, functional diagnostics within the therapeutic process often has an adaptive character; an initial determination of the diagnostic classification is not always possible without more-detailed knowledge of the patient and the individual dynamics of his problem. Along these lines, Wolpe [1986] had already in the mid-1980s called individual functional analysis
‘the categorical imperative of behaviour therapy’. Thus it seems justified to assume that a precise functional analysis in the context of a previous classificatory diagnosis can be considered sufficient.

Although functional analysis has a high heuristic value overall, there is as yet little empirical data on the extent to which it constitutes an effective or even essential part of a behavioural therapeutic case formulation, inasmuch as one takes the change in symptoms as a criterion. In 156 case studies [Haynes and O’Brien, 1990], a systematic assessment of functional structures underlay the therapeutic intervention in only 20% of cases; more recent review articles would be interesting at this point.

Table 2 presents an overview of different ways to identify the functions of psychological symptoms. It should be noted here that the use of individual interventions independent of the original treatment approach requires particular care, although in our experience it is often seen as enrichment.

Quo Vadis, Functional Analysis?
The Functional Aspect in Recent Developments in Behavioural Therapy

The functional view of disorders and the recognition of its relevance to the planning of therapy are common to all approaches that use behavioural principles. There are big differences, however, respecting which aspects are emphasized in a functional analysis.

The ‘third wave’ of behavioural therapy is characterized, among other things, by the prominence in treatment of the therapeutic alliance and thus also of the interpersonal characteristics acquired during the patient’s lifetime. The consideration of these factors would indeed be expected to result from a learning theory approach to mental illness, but that was often not the explicit focus. Another feature is that mindfulness and acceptance gain in importance as principles [cf. Heidenreich and Michalak, 2013]. This has several implications for functional analysis.

For one thing, the organism variable and thus the macroanalytical perspective move more into the foreground through in-depth consideration of childhood formative relationships. On the other hand, with the approach’s increased focus on attitude toward internal events such as thoughts and feelings, unfavorable personal strategies such as experience avoidance [Hayes et al., 2012] assume increasing importance as relevant ‘candidates’ for the establishment and maintenance of mental health problems.

According to Sulz et al. [2011], the third major step in the evolution of behaviour analysis was the functional aspect, after the further development of the SORC schema for system analysis and vertical behaviour analysis, along with their subsequent differentiation into plan analysis and schema analysis [Grawe, 1987; 1998; Caspar, 2007b]. Plan analysis [Caspar, 2007b] already allows a plausible derivation of the function of a behavioural symptom, in that the symptom can be convincingly derived from hierarchically organized, sometimes unconscious action programs that can be subdivided from the elementary observation level (e.g., the patient is crouching on the chair) to higher-level human needs (e.g., gaining attention).

A more explicit approach to the function of a behavioural symptom now exists in Strategic-Behavioural Therapy [Sulz and Hauke, 2009; Hauke, 2013], which is based on Jean Piaget’s schema concept. According to this idea, reaction chains can be determined, after which the symptom formation (e.g., depression) occurs, ultimately as the result of a secondary emotional reaction (e.g., guilt) to a primary emotion anticipated to be unfavorable (e.g., anger) and an action tendency (e.g., to defend oneself); it is maintained according to the principle of negative reinforcement (in this case, discontinuation of the primary anger). Core needs and values or ‘rules of survival’ could be considered as an engine for the ‘censorship’ of the primary emotions and thus the coupled reflexive behavioural tendencies, whose protection serves to maintain intrapersonal and/or interpersonal homeostasis.

Hebing [2011] was able to show that a careful functional and schema analysis reduced the rigidity of dysfunctional rules of survival (for example, ‘I can avoid rejection only if I do everything perfectly’). The schema analysis of Young et al. [2006] and the Cognitive Behavioural Analysis System (CBASP) [McCullough, 2006], developed for people with chronic depression, also focus on a wider spectrum of cognitive-affective patterns, which characterize the experience and behaviour of the patient in a very specific way and explain his symptoms. While Young starts with a total of 18 so-called Early Maladaptive Schemas based on an inadequate response to various early childhood needs, McCullough concentrates on idiosyncratic influences of important caregivers or others close to the child, emotional gratification, the possibility of expressing negative affect and the performance/failure to perform.

Common to these approaches is that particular the macroanalysis of early interpersonal influences and the ensuing adult rules of survival, modes of coping or ‘stamp’ makes the pathological behaviour comprehensible to the person. At the same time, there is still a need for empirical verification of the postulated categories, especially because individually relevant aspects of functional analysis are easily overlooked by resorting to available constructs.

Acceptance and Commitment Therapy (ACT) [Hayes et al., 2012] presents an approach that postulates a cross-disorder universal function of psychological problems. According to ACT, human suffering is part of life; psychological difficulties arise, however, from conceptual-verbal classifications of our experiences, which lead to rigid attitudes and control efforts, and ultimately prevent a values-guided and thus fulfilled life. Control and prevention are not dysfunctional per se, but
only if they are used in a way that does not contribute to a values-based life. Mindfulness and acceptance strategies, as well as strategies to achieve values-guided commitment and modification of behaviour patterns, are used as a way out of this difficulty by fostering openness to experience in general. In this way, ACT follows the principle that all behaviour occurs in a very specific context, and in each it fulfills a separate function. Thus the focus of ACT is explicitly not on content and form, but on functionality and the process of behaviour, as well as its situational, socio-cultural and historical context [Cuper et al., 2006]. The avoidance of aversive emotional states thereby serves as a supra-individual intrapersonal function of mental disorders. For example, excessive alcohol consumption could be a control strategy to protect oneself against unpleasant feelings such as the sense of being trapped in one’s worries, or to distance oneself from certain locations. On the other hand, no behaviour is an expression of a mental disorder in and of itself, but can only be defined as such only when it is identified as either helpful or in need of change because of its function.

Discussion

Looking at the various approaches to functional analysis, it is clear that this is a key tool of behavioural therapy. Conversely, abstaining from a thorough functional analysis can result in an insufficient response on basically reasonable methods of intervention in spite of considerable effort on the part of the therapist and patient [Ecker, 2005].

In addition, it is a matter of therapeutic responsibility to address hypotheses of functions concerning a problem behaviour in whatever form, at whatever time and at whatever level of abstraction. If one elaborates the instrumentality of a behaviour, for example purely situationally, using a questionnaire or a behaviour protocol, one will probably be arguing at different levels of abstraction than if one scrutinises the influences of early childhood. While micro-analytical observation seems necessary and reasonable to modify existing processes of reinforcement and/or contingencies, consideration of the overall context can provide a validating experience for the patient, because he is then able to comprehend his behaviour in terms of basic human needs [cf. Grawe, 1998] and ultimately to understand how his behaviour is meaningful. Ideally, the two aspects complement and cross-fertilise one another equally. The various therapeutic approaches offer quite different points of access.

Given the limitations mentioned, it still seems necessary to emphasise the provisional nature of the ‘treasure of functional knowledge’: It must be borne in mind that functional relationships are not exclusive (the existence of a connection does not rule out the possibility that another, quite different one also exists) and that they are subject to temporal as well as situational changes. Furthermore, it is important to be mindful that not only can 2 totally different behaviours be functionally equivalent, but the same behaviour can also be based on completely different functions, as can be inferred from the idiosyncratic micro- and macro-analytical conditional structure. It is obvious that possible rejections by the patient of the therapist’s hypotheses of functional relationships should be respected.

If it is possible, in cooperation with the patient, to crystallise the particular conditionality of his problem with a useful model for understanding and to work out a satisfactory, resource-oriented way of life, this knowledge of conditionality is ultimately a true gain in free will.

Disclosure Statement

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