

Body Image and Body Schema: A Conceptual Clarification

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In this paper the author argues that body image and body schema are two distinct concepts and ought to be kept conceptually distinct. In current psychological and phenomenological studies on body experience these concepts are confused. This confusion is shown to revolve around the question concerning the status of the body as an intentional object of consciousness. Several criteria that help to differentiate between these two concepts are offered. The body image is a conscious image or representation, owned, but abstract and disintegrated, and appears to be something in-itself, differentiated from its environment. In contrast, the body schema operates in a non-conscious way, is pre-personal, functions holistically, and is not something in-itself apart from its environment. Some implications for the study of body experience are explored.

Body image and *body schema* are terms frequently used in psychological, psycho-analytical, and phenomenological studies of body experience and personality. These concepts are also employed in fields such as neurology and the medical sciences. However, no adequate definitions have been provided for these concepts nor has a clear and consistent distinction between image and schema been made. The result has been a conceptual confusion which has serious implications for the study of body experience and personality. In this paper I argue that body image and body schema are two distinct concepts and ought to be kept conceptually distinct. In order to identify the source of the confusion I begin with a brief review of the literature. This review demonstrates that *body image* and *body schema* are terms that have been used interchangeably to signify, in an unclear and ambiguous manner, a group of related concepts. The conceptual confusion turns on the question concerning the extent to which, and the manner in which, the body is experienced as an intentional object of consciousness. In the second part of this paper I propose a

Research for this paper was supported by a Faculty Research Fellowship at Canisius College (1984). An earlier version of this paper was presented at the ninth annual Merleau-Ponty Circle meeting, Concordia University, Montreal (September 28, 1984). I wish to thank the members of that circle for their constructive comments. I have also benefited from comments and suggestions made by the editors of this journal. Requests for reprints should be sent to Shaun Gallagher, Ph.D., Department of Philosophy, Canisius College, Buffalo, New York, 14208.

phenomenological clarification that identifies the body image as an inconstant intentional object of consciousness, and shows the body schema to be a non-conscious performance of the body.

Review of the Problem

Terminological confusions and conceptual difficulties related to body image and body schema have already been noted in many studies (Fisher and Cleveland, 1958; Kolb, 1959; Myers, 1967; Shontz, 1969; Straus, 1967, 1970). However, these authors either did not attempt to find a solution or failed to resolve the difficulties and, in some cases, simply added to the existing problem.

The conceptual confusion found in the use of the terms *body image* and *body schema* can be traced back to the early theoretical development of these concepts. Consider the following descriptions. Head (1920, 1926) defines the body schema as a postural model of the body that actively modifies "the impressions produced by incoming sensory impulses in such a way that the final sensation of position, or of locality, rises into consciousness charged with a relation to something that has happened before" (Head, 1926, p. 435). However, despite this "rise into consciousness" Head denies that the postural schema is a conscious image. Schilder (1923, 1935), who claims to be in agreement with Head, equates the postural model with the final, conscious sensation of position, i.e., he equates the body schema, as defined by Head, with the image or representation of "our own body which we form in our mind" (Schilder, 1935, p. 11). He calls this representation a *body image* or *body schema*. According to Schilder this image or schema is a conscious picture constructed not only from sensory impressions but also from unconscious libidinous elements and from socially formed images of the body. Finally, Merleau-Ponty (1945/1962) uses the term *schema corporel* (rendered *body image* in the English translation) to signify an experiential and dynamic functioning of the living body in its environment. This schema includes a marginal awareness of the body and operates as a system of dynamic motor equivalents that belong to the realm of habit rather than conscious choice (Merleau-Ponty, 1945/1962, pp. 141-142).

More recent examples show that both terminological and conceptual confusions persist in the use of the concepts of body image and body schema. Fisher states, in a definitive article entitled "Body Image":

Body image can be considered synonymous with such terms as "body concept" and "body scheme." Broadly speaking, the term pertains to how the individual perceives his own body. It does not imply that the individual's concept of his body is represented by a conscious image. . . . [B]ody image. . . represents the manner in which a person has learned to organize and integrate his body experiences. (Fisher, 1972, p. 113)

In other studies Fisher uses the terms *body scheme*, *body image*, *body concept*,

and *body perception* interchangeably (see Fisher, 1964, 1978). He even coins the phrase *body image schema* (Fisher and Abercrombie, 1958; Fisher and Cleveland, 1957). Many times the operative concept used by Fisher and his colleagues is precisely the individual's perception of his/her own body in experimental situations where the individual is asked about his/her own body.

Kolb (1959) defines body schema as a "postural image," a "perceptual image," or a "basic model of the body as it functions outside of central consciousness" (p. 89). According to Kolb this schema, image, or model is active; it "modifies incoming sensory impulses." He explains, however, that the body schema is only one aspect of the body image. Kolb distinguishes another aspect which he calls the *body concept* or *conceptual image*. The latter "includes that which concerns the thoughts, feelings, and memories which evolve as the individual (ego) views his own body" (p. 89). Myers (1967) distinguishes between body schema and body concept, but makes no distinction between body schema and body image.

Gibson (1966) equates the body image with physical poses as they relate to possible body positions in objective space. "The body percept, or 'body image,' is a set of possible dispositions or poses—standing or lying—relative to the substratum and to gravity" (Gibson, 1966, p. 113). Straus (1970), following Gerstmann (1942), equates the body schema with the physiological "map" of body parts located in the parieto-occipital lobe at the postcentral gyrus. Although he uses the term in this sense, Straus also defines body schema as "the inner picture or model which one forms in one's mind of one's body. . . . It is a kind of inner diagram representing one's body as a whole, as well as its single parts according to their location, shape, size, structural and functional differentiation and spatial interrelation" (Straus, 1970, pp. 901-902).

Finally, Tiemersma (1982) suggests a consistent distinction between body image and body schema (pp. 246ff), but then uses the terms interchangeably (pp. 249, 253). Tiemersma ends up equating the body image to an eidetic "knowledge of the essential topological structure of the lived body in the world" (p. 249). This would indicate that the body image is constituted at a very high level of intellectual or conceptual activity.

It is quite possible that the body schema or image is conceptually complex. But is it possible that the schema or image of the body is at one and the same time a physiological functioning, a conscious model or mental representation, an existential experience, an unconscious image, a manner of organizing bodily experiences, an artificially induced reflection, a collection of thoughts, feelings, and memories, a set of objectively defined physical dispositions, a neurophysiological map in the brain, and an eidetic knowledge of the essence of the body? The variety of these proposals indicates to me that, rather than one complex concept with a plurality of names, there is a conceptual confusion as well as a terminological ambiguity connected with the use of these concepts.

Although a number of the above mentioned theorists have recognized the ambiguity and confusion of these concepts, no agreement has been reached about proper definitions. Shontz (1969) suggests that definitions of these terms can only be arbitrary. There are even several authors who remain satisfied with the ambiguous and amorphous character of these terms (Feldman, 1975; Fisher, 1970; Ham, Easton, Himburg, and Greenberg, 1983; Scott, 1948). This terminological situation prompted Straus, who noted the "vague terminology vacillating between body schema and body image" (1970, p. 137), to suggest that the "endeavors to clarify the concept of body schema only serve to awaken the suspicion that in the last analysis the schema is perhaps little more than a ghost (*Schemen*)" (1967, p. 108).

It seems clear from this review that many of the conceptual ambiguities concerning body image and body schema revolve around the question of whether and to what extent there is a consciousness of the image or schema. This seems to be the underlying *aporia*. Head (1926), for example, holds that the body schema is "outside of central consciousness" but sometimes "rises into consciousness." He distinguishes between the actual formation of the schema which occurs "on levels that are not associated with consciousness," and the already formulated schema that enters into consciousness. Schilder (1935) contends that the schema or image is a conscious representation. Merleau-Ponty (1945/1962) equates the schema with a "global awareness" of the body and holds that the schema is present in a "marginal consciousness." Fisher (1972) states that the body image is not necessarily a conscious image and yet, in his empirical studies, he draws conclusions about the body image based on experiments that require his subjects to direct their conscious attention to their own bodies (Fisher, 1964, 1976). Gibson (1966) defines the body image objectively without any reference to consciousness, while Tiemersma (1982) indicates that the body image is the product of a high level conceptual reflection.

This unresolved issue concerning the relationship between consciousness and the body image and/or schema raises several questions concerning the adequacy and validity of some studies of body experience. In the remainder of this paper, with a view to addressing some of these questions, I will suggest a conceptual distinction between body image and body schema that is not systematically made in the literature we have just reviewed.

A Phenomenological Clarification

The first step in working out the distinction between body image and body schema is to distinguish between a conscious awareness of one's own body and a non-conscious performance of the body. Consider first, the conscious awareness of one's own body which is the basis of the body image. In various

circumstances one's own body will appear as a present intentional object of consciousness. What kind of circumstances push the body into the field of consciousness? Many studies indicate that outside of deliberate reflection on one's own body, the body manifests itself in consciousness only in certain "limit-situations," e.g., in fatigue, sexual excitement, pain or pleasure, sickness, mental illness, stress-situations, or physical challenges as in athletics (see Buytendijk, 1967/1974, pp. 50–51, 54–55, 86; Fisher, 1976, 1978; Jaspers, 1913/1972, p. 88; Mason, 1961, p. 33). Moreover, in such occurrences, the body often appears as "thing-like" or "object-like," "in the way," a burden, an annoyance, or impotent (Plügge, 1967). Pre-reflectively, when the body is normally engaged in the world, when consciousness is busy with some task or thought, the body is not explicitly or thematically an object for consciousness. One is not conscious of one's own body until there is either a voluntary reflection (as in medical examination, vain self-inspection, or even philosophical reflection) or a forced reflection brought on by pain, discomfort, pleasure, fatigue, etc.

In any of these circumstances, from the philosophical to the pathological, the body appears in the field of consciousness in an "owned" way—i.e., it is recognized as "my" body rather than as an alien object. At the same time this owned presence points to the fact that "my" body was already there, prior to my consciousness of it, working in the world in a non-conscious, unowned way. Further, as one's conscious attention is directed towards one's body, there usually takes place a discrimination or isolation of the outstanding bodily feature defined by the circumstance. In such awareness the body becomes disintegrated, consciously articulated into parts, although the isolated bodily feature or part continues to function only in relation to the rest of the body which may not be consciously present (for an example of this disintegration in philosophical reflection see Husserl, 1952, p. 159; for pathological cases see Goldfarb, 1945; Jaspers, 1913/1972, pp. 91ff; Minkowski, 1933/1970, pp. 321–322, 327; Schilder, 1935, p. 97). In the conscious image of the body one does not have a consciousness of the body as a whole. Even a "global awareness" is only an awareness of the general features or outlines of one's own body, and not a consciousness of every part in holistic relation to every other part. Indeed, it is phenomenologically impossible to have a consciousness of certain parts or functions of one's own body—e.g., internal organs such as the heart, adrenal glands, the reticular activating system. More precisely, these are not parts or functions of "my own" body, in a phenomenological sense, since the body becomes owned, or "mine" only through my consciousness of it. I may know intellectually that there are specific internal organs that belong to my body, but phenomenologically they are not registered as mine. I do not control these parts; they control me (see Straus, 1970, p. 146).

These occasions of consciousness of the body become the basis for a body image. The concept of body image includes, first, the body as it is perceived in

my immediate consciousness. Second, the body image includes my conceptual construct of the body, informed by my immediate consciousness of my body and by my intellectual understanding (mythical or scientific) of the body. Third, the body image includes my emotional attitude and feelings about my body. Conscious feelings about the body, sometimes straight-forward and sometimes indirect and symbolic, may be motivated by conscious or unconscious experience. The body image, therefore, is a complex phenomenon with at least three aspects: perceptual, cognitive, and emotional. It is, as well, an operative determinant of such experiences. For example, my negative appraisal of a particular part of my body may, consciously or unconsciously, enter into my perceptual or emotional experience of the world. Studies can be (and have been) conducted to investigate these various dimensions of body image. Many experiments have been designed to investigate how various subjects consciously perceive their bodies (e.g., Garner and Garfinkel, 1981; Shontz, 1969; Slade, 1977). Other researchers have asked about the cognitive understanding of various body parts (e.g., Gorman, 1969; Wilf, Tyano, Munitz, and Wijnsbeek, 1983). Still others have focused on the emotional experience of the body in terms of, for example, satisfaction with one's own body (e.g., Calden, Lundy, and Schlafer, 1959; Garner and Garfinkel, 1981). Studies have also been designed to discover how the body image is constructed in personal experience and how the body image enters into the person's perception of the world, (see, Fisher, 1970).

If the body image is indeed only an occasional and accessory phenomenon—i.e., if there is not a constant and persistent consciousness of the body, then the emphasis placed upon the body image in many of the studies of body experience may be questioned. Indeed, some of the methods employed in these studies might even lead one to conclude that the experimental situation itself produces the phenomenon of body image. In some cases it seems that the experimenter discovers a body image that is distorted or exaggerated by the experimental situation. It is interesting to note that many authors base their conclusions regarding body image on studies of pathological populations, including cases of both physical and mental disorders (e.g., Gerstmann, 1942; Head, 1926; Kolb, 1959; Schilder, 1936; Straus, 1967). But even more critically, the design of many studies, whether they involve pathological or normal subjects, requires the subject to reflect on and to describe his/her own body image. Methods that may call forth an accessory body image include the following: (a) the administration of questionnaires that direct the subject's awareness to his/her own body, for example: the *Fisher Body Distortion Questionnaire* (Fisher, 1976); the *Body Focus Questionnaire* (Feldman, 1975; Fisher, 1964; Fisher, Greenberg, and Reihman, 1984; Ham et al., 1982). (b) The comparison of changes in body image reported by subjects while they observe their own mirror image through aniseikonic lenses (Fisher, 1964; Wittreich and

Grace, 1955), or in distorting mirrors (Traub and Orbach, 1964). Similar situations are produced by asking subjects to estimate the accuracy of body image while introducing distortions via photographs or video camera, etc. (Freeman, Thomas, Solyom, and Hunter, 1984; Garner, Garfinkel, Stacer, and Moldofsky, 1976). (c) Asking subjects to rate their degrees of satisfaction with various parts of their bodies (Calden, Lundy, and Schlafer, 1959).

Procedures such as these direct awareness to aspects of experience that are not normally attended to. Studies of body experience that employ these methods deal with a phenomenon that is produced in the experimental circumstance. In general, any experimental situation that places the subject in a reflective attitude in order to ascertain something about pre-reflective experience is questionable. Reflection produces phenomena which are not necessarily contained within pre-reflective experience. And while many authors claim that the body image is not a conscious representation, many of these authors proceed to draw conclusions about the body image on the basis of a conscious representation of the body induced within the experimental situation.

Other procedures that shade the results of body-experience studies have been noted in the literature. Shontz (1969) notes that "measures of experience of the body are always obtained by way of the concepts the subject is capable of using. The subject is asked to draw, rate, or describe his experiences or his level of satisfaction with his body, but he can accommodate the experimenter only if the response language he is asked to employ is one he can use effectively" (p. 204). Thus, the testing of body image sometimes depends on the sophistication of the subject's cognitive understanding of the body and the language employed to express that understanding. The language used within the experimental situation may in fact distort the body image. "The results of [the examination of body image] will be determined to a large extent by the nature of the system of response language chosen by the investigator" (Shontz, 1969, p. 205). Gorman (1969) makes a similar point with reference to the use of questionnaires.

Szmukler (1984), on methodological grounds, objected to having subjects view camera-distorted photographs of their bodies in order to choose which they preferred (see, e.g., Touyz, Beumont, Collins, McCabe, and Jupp, 1984; Allebeck, Hallberg, and Espmark, 1976; Glucksman and Hirsch, 1973). Such procedures, according to Szmukler, called the subject's attention to what was being tested. Many body image tests for patients with anorexia nervosa are conducted in a manner such that patients are aware of what is being tested. Szmukler suggests that the results "bear a closer relationship to [the subjects'] attitudes to treatment or the experimenter than to [the subjects'] perception of their bodies" (1984, p. 553). Garner and Garfinkel (1981) and Button, Fransella, and Slade (1977) make a similar point. Shontz (1969) notes a number

of methodological difficulties, including the question of the objective standard for measuring the accuracy of subjective estimates of body size (pp. 7-8), and the use of questionnaires (p. 56).

I suggest that many of the difficulties and ambiguities encountered in the use of such methods are the result of confusing (a) the body as it can be scientifically measured in objective space; (b) the body as it is perceived (= body image as perceptual object); and (c) the body as a physiological performance operative in the perception of distance, measure, estimation, etc. (= body schema). It is to this last mentioned concept that we now must turn our attention. Many of the above mentioned methodological difficulties will begin to be resolved when, on the theoretical side, clear distinctions and definitions are provided for the concepts of body schema, body image, body percept, body concept, etc.

The body schema is neither the perception, nor the cognitive understanding, nor the emotional apprehension of the body. The body schema, as distinct from the body image, is a non-conscious performance of the body—i.e., a performance that is not an intentional object present to my consciousness. In this performance the body acquires a certain organization or style in its relations with its environment. For example, it appropriates certain habitual postures and movements; it incorporates various significant parts of its environment into its own schema. The carpenter's hammer becomes an operative extension of the carpenter's hand, or as Head (1920) noted, the body schema extends to the feather in the woman's hat (see Gorman, 1969, p. 15). The body schema is an active, operative performance of the body, rather than a copy, image, global model, or conception of the existing parts of the body. The schema is the body as it actively integrates its positions and responses in the environment.

This schema, as an operative performance, is the way that the body experiences its environment. The schema reflects and determines the posture, the general stance, that is taken up by the body in its environmental situations. Body posture is not equivalent to objective position in objective space; it is a spatiality experienced by the body, a lived space that is never fully represented in consciousness or conceptualized by geometry. The body dynamically organizes its own spatiality in taking up certain postures and situating itself within its environment.

This performance of the body is something that happens non-consciously. It is non-conscious in two aspects. First, as Mason (1961) points out, we are not consciously aware of "most of the reactions taking place at lower neurological levels" within our bodies. "Co-ordination of most physiological and mechanical changes and reactions that take place in the organism is accomplished by non-conscious integrative activity called homeostasis" (Mason, 1961, pp. 32-33). But neural activity on any level, not just the "lower

levels," remains non-conscious. Experientially, the human subject is just as unconscious of the processes that go on in his/her cerebral cortex as he/she is of the processes of the autonomic nervous system. In general, and for the most part, physiological processes of the body are lived through or experienced in a non-conscious way.

Second, this non-conscious living of the body applies not only to lived physiology, but also to the way the body lives its environment. The case of eyestrain illustrates this point. In becoming conscious of eyestrain, consciousness is first intentionally directed towards the environment rather than towards the body. "When the eyes become tired in reading, the reader does not perceive his fatigue first, but that the light is too weak or that the book is really boring or incomprehensible. . . . Patients do not primarily establish *which* bodily functions are disturbed, but they complain about the fact that 'nothing works right anymore,' 'the work does not succeed,' that the environment is 'irritating,' 'fatiguing'" (Buytendijk, 1967/1974, p. 62). As a reader in this situation, I am not at first conscious of my posture or of my eyes as they scan the pages. Rather, totally absorbed in my project, I begin to experience eyestrain as a series of changes in the environment. Gradually the perceived environment begins to revise itself; the text seems more difficult, the lighting seems too dim, the body (in a non-conscious way) shifts itself closer to the desk, etc. In the end I discover the true problem—the fatigue, the headache. The eyes that have been reading have been anonymous eyes, doing their work without my reflective awareness of them. Now, however, my attention is directed to *my* eyes. The eyes suddenly emerge out of anonymity and become owned. My pain now becomes the present concern, and my body in general gets in the way of my reading comprehension.

On the pre-reflective level, when consciousness is engaged in the world, the body is not explicitly present to consciousness. The body does not appear (the body image does not manifest itself) until there is a forced reflection brought on by pain, discomfort, fatigue. However, when the body is "in tune" with the environment, when events are smoothly ordered, when the subject is engaged in a task that holds the attention of consciousness, then the body is anonymously performing with its environment on a behavioral level that escapes consciousness. In the example of eyestrain the body shifts itself towards the desktop, postures itself closer to the text, guides the reading process by moving its fingers over the difficult path of words, etc. It does all of this non-consciously—i.e., without the reader consciously deciding to do this or even being aware of the body's behavioral performance.

The body schema, understood in this way, is not the perception of "my" body; it is not the image, the representation, or even the marginal consciousness of the body. Rather, it is precisely the style that organizes the body as it functions in communion with its environment. It is not an object of

consciousness, nor the result of a conscious project; it is the non-conscious, pre-reflective performance of the body as it lives its environment. The body performs in rapport with its environment for the most part without a perceptual image or awareness of the body being produced, even in a marginal consciousness (Gallagher, 1986).

Both on the level of lived physiology and on the behavioral level, the body performs non-consciously. These non-conscious performances constitute the body schema. Although automatic regulations and spontaneous behavior take place and are non-consciously lived as bodily performances, the results of this anonymous bodily experience can also be reflected in the conscious image of the body. Consciousness finds the body already with feelings, drive-states, kinaesthetic sensations, etc., defined by the non-conscious performances of the body. In attempting to explain the body image, or the sense of individual identity, or the subject's ability to judge his/her everyday environment, these non-conscious performances of the body should not be left out of account, as if they did not help to define the human situation. Within the work-situation, for example, the technique of the heart action, changed in relation to automatic self-regulated circulation and respiration, the workings of kidney and stomach, the ongoing regulations, adaptations, and behavioral reactions all contribute to the individual's feeling and conception of self (see Buytendijk, 1967/1974, pp. 46-47), and may be reflected in the absence or appearance of a body image.

Thus, in general, we can say that the body schema, operating as the actual postural performance of the body in its environment, partially determines the body image, as habits partially determine conscious decisions. For example, Shontz (1969, pp., 149-150) points out that proprioceptive stimulation (thus, body schema) plays some role in the estimation of distances on the personal body (= body image). The perception and estimation of distance and size in general depends to a great extent on the proper functioning of the body schema. In the case of a phantom limb, it could be said that the habitual body schema determines body experience and behavior in that the body schema in its performance has not caught up with the conscious body image (see Simmel, 1958). More generally, a disequilibrium between body and environment, i.e., a failure of the body schema to maintain equilibrium, may account for the spontaneous appearance of the body in consciousness. Likewise, the success of the body schema in maintaining equilibrium between body and environment may explain why we are more often conscious of the world and our circumstances than of our body.

On the other hand, just as conscious decisions sometimes determine habits, the body image sometimes determines the body schema. For example, this would be the case of the dancer or the athlete who practices long and hard to make his/her deliberate movements automatic so that the movement is finally

accomplished by the body without conscious reflection. Fisher (1970, pp. 579–585) notes that focusing attention on specific parts of the body (thus, body image) may alter the physiological performance of the body (= body schema). Winer (1975) suggests that a “deficient body image” may cause less reliance on the body schema in the discrimination of left-right relations. Exercise and physical therapy reflect a reciprocal interaction of schema and image. For example, Rossi and Zoccolotti (1979) suggest that motor practice (thus, body schema) affects estimates of body dimensions (= body image) (also see Silva and Klatsky, 1984). The reciprocal determination between body image and body schema can be worked out in detail, however, only if the conceptual distinction between them is realized first.

In summary, the body image is an incomplete and inconstant representation of the body. The original performance and organization of the body schema is poorly represented in the conscious representation of the body image. On the basis of the foregoing discussion we can identify a number of criteria to clearly distinguish between body schema and body image.

(1) The body schema is a non-conscious performance; it does not have to be made the object of consciousness in order to do its work. In the body image the non-conscious operation of the body is modified. Parts of the silent performance of the body are thematically represented in perception, thought, or emotional expression. For example, via the body image the body is made to move by conscious choice rather than by habit, or the subject adopts a specific emotional attitude towards the body as an intentional object of consciousness.

(2) The body schema is an anonymous performance. In the body image the body loses its anonymity; it becomes “my” body, an “owned” body. As body schema the body performs its duties, not as “my” body, but as a “pre-personal cleaving to the general form of the world, an anonymous and general existence [that] plays, beneath my personal life, the part of an inborn complex” (Merleau-Ponty, 1945/1962, p. 84).

(3) The body schema, as it functions in its non-conscious way, does so in a holistic and unified fashion. In the body image the lived body is articulated in an abstract and disintegrated way. It appears with certain parts emphasized or singled out (see Schilder, 1935, p. 97). For example, in the case of eyestrain, the aching area behind the eyes eventually becomes the focal point of consciousness. But before the body is made thematic, the pain is not specifically localized. The body lives the situation in its holistic generality; the “pain” even appears to be vaguely located in the environment—i.e., the reader feels that the text is becoming difficult, or has the impression that the lighting is insufficient. In another example, when the body is described by a patient suffering from schizophrenia or depression it is described in terms of specific parts being torn apart, being experienced as larger or smaller than normal, hotter or colder than normal, etc. (see Jaspers, 1913/1972; Kolb, 1959;

Minkowski, 1933/1970). Such patients decidedly emphasize one type of sense experience over another—visual, tactile, kinaesthetic, etc., (Minkowski, 1933/1970), and the body image is constructed accordingly.

(4) Finally, the body schema is not something entirely in-itself; through its posturing the body defines its environment just to the extent that the environment defines the body's postural standards (Gallagher, 1986). The body, in its body schema, most genuinely lives as a body-environment. On the other hand, in the body image the body is seen as something distinct from the environment. It is understood as something in-itself, an object with its own abstract identity, a thing that is often objectified and experienced in an isolated fashion.

If the body image is conceptually distinct from the body schema, an account of the body image is not equivalent to an account of the body schema. In this regard it should be noted that even when the term *body schema* is used in some studies, they overlook or ignore the concept of body schema as explained above (see, e.g., Bruchon-Schweitzer, 1978, 1979; Harris, 1979; Rossi and Zoccolotti, 1979; Ruggieri, Bergerone, Cei, and Valeri, 1981; Ruggieri and Valeri, 1981a, 1981b; Shontz, 1969, 1974; and Slade, 1977). The two concepts of image and schema should be kept distinct; the terms should not be confused. If other terms, such as *body concept* or *body percept* are introduced, they should be defined in light of the basic distinction between body image and schema. Thus, a body concept might be defined as a developed conception of the body which includes information from (a) the subject's own perceptual experience of his/her own body (= body percept), and (b) the subject's cognitive understanding (mythical and/or scientific knowledge) of the body in general. This latter distinction might even include scientific information about the body schema. The body concept, in this sense, is one aspect of the body image and will certainly enter into and help to shape other aspects of the body image. My conceptual understanding of the body as a scientific object may help to inform the way that I perceive my body or relate to it on an emotional level.

We conclude that body image and body schema are two distinct concepts. In the body image there is a perceptual, cognitive, or emotional awareness of the body. The body appears as owned, abstract and disintegrated, and seems to be something in-itself. In contrast, the body schema operates in a non-conscious manner. It is unowned or anonymous; it functions holistically, and is not in-itself apart from its environment.

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