Introduction: The Incomplete Gestalt

> Motives are always a kind of striving for some form of completion
> – Allport 1937

How we think affects what we want. It is usually put the other way around – what we want affects how we think – but it works both ways. Cognitive processes can have motivational effects, as well as being affected by motivation. It is well established in psychological research that there is a kind of motivation with many interesting properties that is cognitive in origin and explains some of the most basic and the most highly developed aspects of human behaviour and experience. This work explores a theory of cognitive motivation that brings together motivation and cognition in a way that explains a range of such motivation.

A prime example of cognitive motivation is curiosity in which attention to perceived novelty gives rise to conceptual conflict and awareness of gaps in knowledge. People then seek additional information, review their thinking and strive to overcome inconsistencies and gaps in their view of the world and themselves. Other examples of cognitive motivation include cognitive dissonance, achievement motivation, attribution theory, self-efficacy, competence for its own sake and various types of intrinsic motivation, in all of which there is some initial sense of incompleteness in one's conception of the world and oneself. Awareness of incompleteness motivates people to seek new information and reorganize present knowledge to form a new understanding of themselves and the world in which they live. That search for a new understanding defines a goal for purposive behaviour. Motivated behaviour is purposive by definition.

It is a common psychological conception that motivation both gives direction and impels action, and so it is with cognitive motivation. When behaviour is directed towards a goal, we assume that there are information-processing conditions within the individual that direct and energize behaviour for the attainment of that goal. As with all kinds of motivation, cognitive motivation is goal oriented, but its goals are often

intrinsic to the motivated behaviour itself. It is not dependent upon the satisfaction of physiological needs, but on forms of information processing. In order to provide a theoretically useful basis for understanding behaviour with a purpose, however, the internal processes which constitute a particular type of motivation need to be explicated. It is not enough simply to name a motive or ascribe a need for whatever is defined as a goal. To advance psychological understanding we need to know how it works.

In the theory of cognitive motivation that I propose in this work, the internal conditions that we infer are not static, but dynamic: that is, we look for a *process* of motivation, not simply a motive state or disposition. The process of arousal and direction defined in this theory is called *cognitive* motivation because it is cognitive in origin and in its contents, as distinct from motivation that has physiological or other pre-programmed biological sources. But while cognitive in its processes, it is derived from both thoughts *and* feelings. In a theory of cognitive motivation we are concerned with processes that include cognitive elements representing emotions with physiological components which help to initiate and guide behaviour towards a goal.

It was common in 20th-century psychology to separate cognition from motivation, so that the term 'cognitive motivation' might not have appeared initially to make sense in the prevailing theoretical framework. In a fairly typical statement in the development of this field Gordon Allport said '[N]o theory of cognition, however dynamic, would give us the required foundation for a full-blooded psychology of personality. We need also a doctrine of motivation to explain the facilitating, inhibiting, selecting, and vivifying of our cognitive and behavioural systems' (Allport 1955, p. 15). The theory of cognitive motivation combines the two, cognition and motivation, in a single process. It does so by incorporating emotions as signs in cognitive functions.

Curiosity is the prime example of cognitive motivation. A cognitive process theory of curiosity (Beswick 1964, 1971) is presented in Chapter 2 as a model of the underlying processes of *intrinsic* motivation, which are then generalized to a broader concept of *cognitive* motivation. Curiosity is the prototypical example of intrinsic motivation in which motivation is inherent in the motivated activity itself, that is, in something done for its own sake rather than being a means to some other end (see Chapter 3). Intrinsic motivation falls within the scope of cognitive motivation, but not all cognitive motivation is strictly intrinsic. Some of the goals of other forms of cognitive motivation may be separable from the motivated behaviour which serves as a means to those ends. On the one hand, cognitive motivation includes competence for

its own sake or 'effectance motivation' that is intrinsically rewarding (White 1959), while on the other, cognitive dissonance is an example in which extrinsic feedback from social interaction may be important in reconciling dissonant cognitions (Festinger 1957). In another example, achievement motivation can be rewarded either intrinsically or extrinsically – compare the satisfaction that an inventor receives in his or her own mind from a unique accomplishment with the accolades received from others by the winner of an Olympic race (McClelland, Atkinson, Clark and Lowell 1953). Attribution theory (Weiner 1986), self-efficacy (Bandura 1997) and personal searches for identity, purpose and meaning depend upon higher levels of cognitive organization that, while intrinsically rewarding in processes of self-understanding, incorporate feedback from external sources in social and personal developmental experiences (see Chapters 3, 6 and 12). There are different theories for each of these types of cognitive motivation. This work is an inquiry into the possibility that a general theory of cognitive motivation can be applied to all its forms.

The Incomplete Gestalt

The basic idea I suggest we explore is that cognitive processes have motivational effects as people strive for completion of incomplete images of the world, including themselves and their place in it. In the theory of cognitive motivation, as in other general cognitive theories, the images we have of the world and ourselves are organized in a cognitive map with dynamic properties which owe their effects to a general principle of striving for meaningful organization. This map is not only a simplified summary of past experience but a coherent meaningful representation which extends into images of the future. Cognitive processes have motivational effects when attention is focused on some point at which the organization of a cognitive map is incomplete, and purposive imagination conceives of possibilities for its completion. We form images of the future and compare them with the present state of affairs. We both see and feel the difference. Feelings guide us toward the fulfilment of our aspirations as we move conceptually from a present state to an imagined future state: '[T]he difference between a desired state and a current state drives the organism toward reducing that difference' (Austin and Vancouver 1996, p. 340). It is a basic principle of the theory of cognitive motivation, however, that we never arrive exactly at a previously imagined position. New forms emerge and a new order is established as new information is processed in the resolution of what I call an *incomplete gestalt*, the key concept in this theory. The aim of the resolution is not

simply to overcome deficiencies, but to achieve growth of organization and meaning (Hebb 1949; Bruner 1990) so as to make sense of what is happening and equip the person to cope more effectively with future challenges. There is a similar set of assumptions in the recently developed meaning maintenance model (Heine, Proulx and Vohs 2006) which I discuss in Chapter 1 and at other points.

Many theorists in the early and mid-20th century, such as Woodworth, Allport, Hebb, Bruner, Hunt, McReynolds and the Gestalt psychologists, suggested directly or indirectly that there is an inherent tendency in the way the brain processes information for the level of organization to be increased. In this view it is to be expected that there is a tendency for an incomplete image to be transformed into a more nearly complete form, or gestalt, that stands out from a background. This is a basic hypothesis in the cognitive motivation theory. Recent developments in biological and physical sciences have described 'self-organizing systems' similar to those suggested by the early Gestalt psychologists, Köhler in particular (see Chapter 9). In this theory it is assumed that self-organizing systems in the brain produce new forms of order, so that identifiable gestalts[1] appear. As a new order develops, at a point of transition between chaos and cosmos, people strive for 'some form of completion,' to use Allport's term for the goal of all kinds of motivation (Allport 1937b, p. 154; see also Allport 1937a). In the process that I describe, an incomplete gestalt is the engine which drives cognitive motivation: it is a motivating force that gives direction to goal-oriented activity and energizes behaviour for that purpose. Its varying effects in different types of cognitive motivation depend upon the specific contents of an image or schema, the different ways in which it can be incomplete and the various strategies that may be adopted for its completion.

Cognitive approaches to motivation have been developed over the past half-century or so, but no general theory of cognitive motivation has been put forward. What was known previously as a cognitive 'approach' may be seen as a step towards a cognitive theory of motivation. A cognitive view of motivation in general is represented in Kagan's definition of a motive as 'a cognitive representation of a future goal state that is desired' (Kagan 1972, p. 54). That definition could have a very wide application, but I propose a theory of cognitive motivation which applies to only certain types of motivation. That is, I do not aim

[1] I am using the Anglicized forms of the German word *gestalt* and its plural *gestalten*, but I intend the term to have the meaning given to it by the Gestalt theory pioneers: von Ehrenfels, Wertheimer, Köhler and Koffka. As in the original Gestalt theory, by 'gestalt' I mean a form, image or whole unit of perception or conception that coheres as a single entity and is different from the sum of its parts (see Chapter 9).

to give a general account of all motivation, but only motivation that falls within the wide range of cognitive motivation. There are signs, however, of a general theory of all kinds of motivation being developed in the foreseeable future.

In a recent paper which appeared too late to be taken fully into account for this book, Baumeister has suggested some steps 'Towards a general theory of motivation' (Baumeister 2016). His purpose was to look ahead to 'a broad understanding of motivation that would apply across multiple domains of desire and motivated behaviour' (p. 1). He too refers to the last half-century as a time in which emphasis has shifted to cognitive processes, and to the present as a time when motivation has generated renewed interest, and he argues, as I do, that a full understanding must encompass both cognition and motivation in a new conceptual paradigm. I agree with him on the basic function of emotion acting with cognition in the service of motivation, and on the emergence of new forms of motivation like the search for meaning. He has some very interesting suggestions on the nature of possible long-term change in the base level to which motivational arousal returns in an equilibrium type of motivation. I differentiate cognitive motivation from the equilibrium model, but his idea of adaptation could fit quite well with my argument for the resolution of an incomplete gestalt never returning the system to a previous state. He concludes with a hope 'that moving toward a general theory of motivation will help psychology as a whole acknowledge and embrace the fundamental importance of motivation in the grand scheme of integrative psychological theory' (p. 9). I do not aim to offer a general theory of motivation, but a theory applicable to the limited range of *cognitive* motivation which I define in Chapter 1. However, it would be consistent with my general theory of cognitive motivation if, 'in the grand scheme of integrative psychological theory' (p. 9), a general theory of all motivation was built upon the principles of cognitive, personal and social *integration*.

Cognitive motivation occurs in a variety of forms, including cognitive dissonance (Chapter 4), achievement motivation (Chapter 5), attribution and self-efficacy (Chapter 6), as well as curiosity (Chapter 2), competence and intrinsic motivation in general (Chapter 3). I will attempt to identify the cognitive processes that underlie these examples and help to explain cognitive motivation in general. Among the underlying processes with explanatory power are those of conscious cognitive integration which take place in working memory (Chapter 7), the function of emotions as signals for the changing relationship of a person to a goal in the course of purposive activity (Chapter 8) and the processes of meaningful organization that guide the pursuit of goals

and intentions (Chapters 9 and 10). Some of the examples, like curiosity, achievement motivation and self-efficacy, will be discussed in detail in Part I of the book, and the more general underlying cognitive processes in working memory, consciousness, emotions, goals and intentions will be discussed in Part II, which concludes with applications of the general theory to identity, purpose and meaning in Chapters 11 and 12.

Summary

There is a kind of motivation with many interesting properties that is cognitive in origin. A prime example of cognitive motivation is curiosity (Chapter 2). Others include cognitive dissonance (Chapter 4), achievement motivation (Chapter 5), attribution theory and self-efficacy (Chapter 6), competence for its own sake, various types of intrinsic motivation (Chapter 3) and the search for meaning and purpose in life (Chapter 12), in all of which there is some initial sense of incompleteness in one's conception of the world and oneself. Awareness of incompleteness motivates people to seek new information and reorganize present knowledge to form a new understanding of themselves and the world in which they live. A key concept in this theory is the idea of an *incomplete gestalt*. We look for a *process*, not simply a state of motivation. It is a process that tends to complete new whole images that stand out from a background.

While cognitive in its processes, cognitive motivation is derived from both thoughts *and* feelings. A cognitive process theory of curiosity is presented as a model of the underlying processes of *intrinsic* motivation, which are then generalized to a broader concept of *cognitive* motivation. Among the underlying processes with explanatory power are those of conscious cognitive integration which take place in working memory (Chapter 7), the function of emotions as signals for the changing relationship of a person to a goal in the course of purposive activity (Chapter 8) and the role of goals and intentions (Chapters 9 and 10). Some of the examples, such as curiosity, achievement motivation and self-efficacy, are discussed in detail in Part I of the book, and the more general underlying cognitive processes in working memory, consciousness, emotions, intentions, purpose and meaning are discussed in Part II. The same basic processes found at the micro level in curiosity can be applied at the macro level of personal identity, purpose and meaning (Chapters 11 and 12).