

An anecdotal history of motivation

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Abstract. This article presents a history of the study of motivation from approximately 1900-1975, focusing on achievement strivings and containing little-known and often surprising facts about the main contributors to this field. Five theoretical approaches are highlighted: trait, drive, Gestalt, expectancy/value, and attribution. The paper emphasizes the inter-relations between the theorists and the interaction between personal and scientific life.

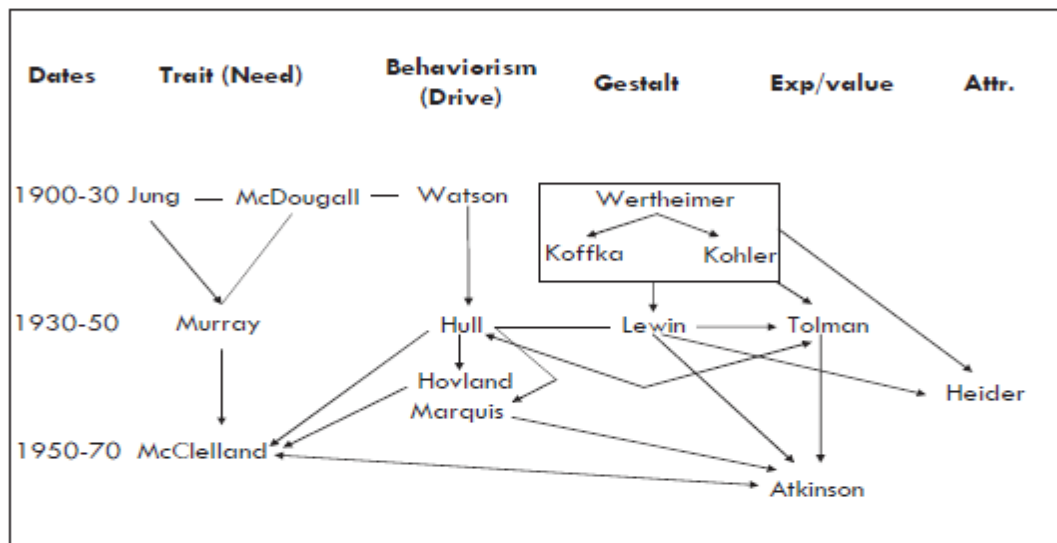
Key words: achievement, John Atkinson, Fritz Heider, history, Kurt Lewin, David McClelland, motivation.

The psychology of motivation has a very rich history, in spite of the fact that this history is relatively short. In this brief article, I call attention to some little-known facts, anecdotes, and even scandals that have played a role in this history, which here embraces the years from about 1900-1975. I focus on the study of achievement motivation, specifically pointing out the historical contributions of David McClelland, Kurt Lewin, John Atkinson, and Fritz Heider. In addition, many psychologists not directly in the achievement area are included. Five theories and their inter-connections are explored: trait (need/instinct), drive, Gestalt, expectancy/value, and attribution.

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THE TRAIT (NEED, INSTINCT) APPROACH

The trait approach (see the left columns in Figure 1) to motivation was an outgrowth of instinct theory, which perhaps provided the initial scientific step to understand motivated behavior. In its simplest form, this view specifies that motivation is determined by some instinctive disposition or personal characteristic. Hence, causation primarily resides within the person, which links instinct, need and trait theories.



Motivational Approaches (Theories)

Figure 1. Key contributors and main theoretical systems in the history of the study of motivation (1900-1975), with a focus on achievement striving. Arrows indicate the direction of influence (unidirectional or bidirectional).

One of the first and most influential instinct theorists was **William McDougall** (1871-1938). McDougall contended that individuals are motivated by inherited instincts or “propensities” that elicit behaviors directed toward desired goals. Instincts influence perception (attending to stimuli relevant to the goal) and emotion. For example, the instinct of flight is aroused by objects conveying danger and is associated with fear.

McDougall’s influence declined over time for a number of reasons. One was that he could not clearly specify how many instincts there are and what they should be labeled. But he also embraced other positions that were very questionable. He believed in the paranormal; accepted Lamarck and the inheritance of acquired characteristics; and appeared to be a racist, advocating eugenics and proposing that the elite should have more children (see Jones, 1987; McDougall, 1921).

Because McDougall's psychology failed to significantly acknowledge the importance of learning and the environment, he was invited in 1924 to debate **John Watson** (1878-1958), the father of behaviorism. While Watson's philosophy may have been more acceptable to the American public than that of McDougall, his personal behavior was not. Watson was known for the experiment he conducted with Rosalie Raynor, during which the infant known as "Little Albert" was conditioned to fear a white rat by pairing it with a very loud and unpleasant noise. Watson was attempting to demonstrate that fear is learned and not innate; the instinct concept is not useful or needed, he argued. But Watson was discovered (by his wife) to be having an affair with Ms. Raynor and was forced to resign from his academic position at Johns Hopkins University (this was in the early 1900s!). He took a job at an advertising agency and advanced to Vice President at a very high salary, while still writing about behaviorism!

The McDougall-Watson debate took place in Washington, D. C. before a large audience, with the two men exhibiting contempt for one another (see Watson & McDougall, 1928). It is unclear who was the "winner," although this debate succeeded in highlighting two very different psychological approaches to the study of motivated behavior.

Carl Jung (1875-1961) also contributed to the growth of trait theory (and served for a time as McDougall's analyst, even though McDougall described himself as "hopelessly normal"). One little known fact about Jung was that he advised adding spirituality into the Alcoholics Anonymous (AA) philosophy of treatment, which is now at the core of their program. Jung developed a taxonomy of personality that centered on a distinction between introverts and extraverts (terms he coined) and a contrast between "rational" versus "irrational" types. He also strongly believed in the unconscious and sought to measure unconscious thoughts, beliefs that he passed on to **Henry Murray** (1893-1988), shown in Figure 1 as influenced by Jung.

Murray was comfortable with a taxonomic or list approach to the study of instincts (needs) inasmuch as his training was first in biochemistry. He was introduced to Jung by Christiana Morgan, who led a bold life and had affairs with a number of well-known intellectual figures. They traveled together to meet Jung, who provided the impetus for Murray to pursue psychology. Together at Harvard University, where Murray assumed head of the Psychology Clinic following Morton Prince, Murray and Morgan developed the Thematic Apperception Test (TAT). Murray (1938) also proposed a list of needs; included in that listing was the need for achievement. This taxonomic approach did not differ very much from the instinct perspective proposed by McDougall, although it was assumed that needs are learned rather than biologically given. Because of the apparent non-scientific or non-empirical nature of this approach, some of the Harvard faculty attempted to have Murray dismissed. This feeling may have been exacerbated because Murray was immersed in the study of Herman Melville and received international recognition for his interpretation of the novel *Moby Dick*. Among others, McDougall wrote in his favor and Murray and the Harvard Clinic were retained (although Murray only had

job security for renewable five-year periods and subsequent to his retirement the clinic was closed).

In addition to Murray, **Clark Hull** (1884-1952) and **Carl Hovland** (1912-1961) are shown in Figure 1 to have direct influence on David McClelland, the focal point for trait theory in this history of motivation. Hull, unlike McDougall, Jung and Murray, eschewed notions of consciousness and mentalist concepts, following behaviorism as set forth by Watson and others. He was trained as a mining engineer but contraction of polio forced him to alter his professional goals and he turned toward psychology. Hull (1951) developed a general theory of motivation that identified the determinants of behavior (primarily drive, incentive and habit) and specified their mathematical relations, which was a major advance or shift for motivation theory. One of his formula for motivated behavior was:

$$\text{Behavior} = [\text{Drive} + \text{Incentive}] \times \text{Habit}$$

Carl Hovland was a student of Hull's at Yale but when serving in the Armed Forces during World War II conducted research on war-related attitudes and propaganda effectiveness (Hovland, Lumsdaine, & Scheffield, 1949). World War II played a major role in the history of the field of motivation and altered the research careers of many psychologists, in this case converting a learning theorist into a social psychologist. At Yale, Hovland supervised the dissertations of a number of to-be-important psychologists in many areas of study, including Daniel Berlyne, prominent because of his research on curiosity, and **David McClelland** (1917-1998). McClelland thus began his career as a Hullian behaviorist; he subsequently turned to traits; the TAT; and even inferring achievement needs from script on Greek vases, which might have pleased Jung!

The shift by McClelland to trait theory also was influenced by the onset of World War II. McClelland had converted to Quakerism during college and did not serve in the military. Among his alternative contributions at that time was filling a university void by teaching a course in personality. This shift in focus put him on the path of applying his Yale training to the field of personality as it was being studied at Harvard (Winter, 1998). During this process, he created an objective scoring system for the TAT, attempting to measure needs identified by Murray, particularly the need for achievement. He also documented that increases in achievement needs precede economic growth across time periods and countries (McClelland, 1961). And while he brought the study of achievement needs into the laboratory, McClelland also developed applied programs to enhance achievement strivings, particularly among executives in under-developed countries. The study of achievement needs, which was an outgrowth of instinct theory and centered on intrapersonal causation, initially dominated the experimental trait approach to the study of human motivation.

Summary. Although I have only presented a progression from instincts to needs and an analysis of the trait approach to motivation (see Weiner, 2013

for a fuller report), a number of generalizations concerning the history of motivation are possible. Most evident is that there are linkages between scientists often not paired: Jung had some impact on McDougall and even greater influence on Murray; Hull and Hovland influenced McClelland; and so on. A second evident conclusion is that one's personal life and encountered environmental events influence scientific beliefs and pursuits: Morgan's bohemian life style and Jungian immersion altered Murray's career; Murray's training in biochemistry was conducive to a listing of needs; Hull's knowledge of engineering made him ripe for behaviorism; and McClelland's adoption of Quakerism quite likely fostered his achievement-change research. Also of great importance for the history of motivation is that World Wars I and II altered research directions for many, including Hovland and McClelland. Finally, although not elaborated here, the history of motivation, just as any other scientific history, embraces a wide-ranging slice of life: some were born poor (Watson and Hull), others rich (McDougall, Morgan, Murray, Hovland); some fates were linked with illness and/or early death (Morgan, Hull, Hovland) while others had long and relatively healthy lives (Jung, Murray); some lives were scarred with marital scandal and infidelity (Watson, Jung, Morgan, Murray) whereas others were faithful and devoted (McDougall, Hovland, McClelland), and so forth. Hence, a general blueprint to scientific productivity is unlikely to emerge!

GESTALT THEORY

While McDougall was compiling and bringing his list of instincts to Harvard, while Watson was igniting psychology with behaviorism and debating McDougall, and while Jung was exploring fantasies and dreams, Gestalt psychology was creating excitement in Austria and Germany. A trio of psychologists working in Frankfurt and then Berlin: Max Wertheimer, Wolfgang Kohler, and Kurt Koffka, lead this charge, followed by Kurt Lewin (see Figure 1, middle section).

The Gestaltists, who initially studied perception and visual illusions, argued that perceptions are influenced by the entire environment in which an object is embedded. In a similar manner, Lewin contended that motivated behavior is a product of the total field of forces acting on the person. These forces do not reside in or emanate from the person, as the instinct/need/trait theorists proposed. Thus, Gestalt psychology was a major departure from the intrapersonal causation viewpoint of the trait theorists.

Max Wertheimer (1880-1943) was the leader of the Gestalt movement, providing post-doctoral opportunities to Kohler and Koffka. His initial training in music guided his idea that a perception, or the whole, cannot or should not be reduced into component parts, for a melody is different from a mere collection of notes. Music was important in Wertheimer's life and he played in a chamber music group with his close friend, Albert Einstein, while teaching at the New School for Social Research in New York.

A second theme in Wertheimer's analysis of perception is that fact and fiction, or reality and illusion, are often difficult to distinguish. For example, one sees motion when neighboring lights are flashed in temporal contiguity although this is not "real" motion. This interest in truth grew from his earlier study of law and a concern with lies during legal testimony. Thus, important principles of Gestalt theory were derived from Wertheimer's broad knowledge of both music and law; as well, he discussed physics with Einstein.

Among the four major Gestalt figures discussed here, **Wolfgang Kohler** (1887-1967) was the only non-Jew. Gestalt psychology was therefore devastated when the Nazi movement gained ascendance. In 1933, Kohler wrote the last anti-Nazi published newspaper article in Germany, questioning the Nazis for the dismissal of Jewish faculty, particularly Max Planck. Kohler (1925) primarily studied learning and problem solving, documenting his well-known beliefs about insight learning in chimps and contrasting this with the habit formation principles advocated by Watson and Hull.

Kurt Koffka (1886-1941), the third of the major Gestalt psychologists, left Germany in 1920, well before the advent of the Nazis. He contributed to a number of fields of psychology including the philosophy of science (Koffka, 1924). He compared vision with science, contending that the component facts are integrated into a whole. In science, this reorganization is called a theory, which is different from the sum of the component facts. The theory then influences the perception of the facts, and vice versa.

Kurt Lewin (1890-1947). In 1933, Lewin was visiting Lev Vygotsky in Moscow. Lewin had a long history of involvement with Russia and a number of his graduate students were women at a time when female scholars faced severe academic discrimination. Lewin was aware of the Nazi problem and at that time decided not to return to Berlin. Following his arrival in America, his two main appointments were at the Iowa Child Welfare Research Station from 1935-1944 and then at the Center for Group Dynamics (RCGD), which he founded at the Massachusetts Institute of Technology (MIT). He died suddenly of a heart attack in 1947, prior to a likely move to Israel.

It should be noted that Lewin, although known as a German psychologist, was born in Mogilno, Prussia (modern Poland). In addition, a number of other Gestaltists considered as originating in Germany or Austria were born in or spent an early time of their life in Poland (e.g., Solomon Asch, Else Frenkel-Brunswick).

During the initial stages of Lewin's career, which included serving in the Army during World War I, he examined camouflage, another example of the study of illusion that is traced back to Wertheimer. He also wrote about the "war landscape," describing the organization of the land into "safe" and "unsafe" places, which pre-dated his notions about the psychological life space.

Lewin developed two rather distinct theories of motivation. One centered on level of aspiration, often operationalized as the distance children stand from a peg when tossing rings over it. This theory specifies that choice behavior is directed by the anticipated benefits of success compared to the anticipated costs of failure. Aspiration level was dominant among the variables

examined by McClelland and John Atkinson in the study of achievement motivation and important for the development of expectancy/value theory as espoused by Tolman and others (soon to be discussed).

A second theory of motivation proposed by Lewin is more general and similar to Hull's conception (they had reciprocal influences on one another). For Lewin (1938), motivated behavior is a function of level of tension (t – similar to Hull's concept of Drive but includes psychological as well as biological needs); the properties (incentive valence) of the goal object (V_a – similar to Hull's concept of incentive); and inversely related to the perceived distance from the goal (e – symbol for distance in German):

$$\text{Force or motivation} = f(t, V_a)/e$$

EXPECTANCY/VALUE THEORY

Expectancy/value approaches to motivation adopt the common-sense assumption shared by Lewin's level of aspiration theory and by economists: What we do depends on the value of the goal and the likelihood (expectancy) of attaining it. This is a hedonic, rational choice conception that provided a cognitive alternative to the mechanistic approach advocated by Watson and Hull.

Donald Marquis (1908-1973). Marquis received his Ph. D. at Yale and rose to department chair in 1942. He then left to become Chairperson of the Department of Psychology at the University of Michigan (UM). Within a few years that department rivaled Harvard and Yale and helped to lift the anchor of psychology from the East Coast. Among his accomplishments was bringing Lewin's research center at MIT to UM.

While chairing the department at Michigan, Marquis supervised the dissertations of a number of students from a variety of fields of study. Among his students was Atkinson. It is ironic that both McClelland and Atkinson were trained by loyal associates of Hull (respectively, Hovland and Marquis), the very person they so-often criticized and tried to dethrone!

Marquis remained at UM until 1957, when he abruptly resigned because of growing affections toward a graduate student. He left for the School of Management at MIT, where he continued to be productive and successful (and re-married).

Edward Tolman (1886-1959). While prior to World War II, Kohler protested the activities of the German government, after the war Tolman objected to the demands of the American government, for which he too faced negative consequences. Tolman was at the University of California, Berkeley when the university required the signing of a loyalty oath pledging "[I] ... do not believe in, and am not a member ... of the Communist party." Tolman argued that this threatened academic freedom and was among the few university employees who refused to sign. He was then fired by the University. However, he won a legal battle two years later and was reinstated, as were

his back wages. Some years later, the University named the education and psychology building *Tolman Hall*.

Tolman (1932), like McClelland, was a bridging or integrative figure, bringing together different theoretical perspectives, specifically combining the objective experimental tenets of the behaviorists with the field approach of Gestalt psychology. Tolman was very familiar with the Gestalt position because he studied for a short time in Germany with Koffka and had invited Lewin to be a visiting professor at Berkeley. In contrast to Hull but similar to the Gestaltists, Tolman believed that learning involves the formation of cognitive maps, belief systems, and/or expectancies, transforming the information in the environment regarding "what leads to what."

John Atkinson (1923-2003). Atkinson (1957) combined the study of achievement needs with expectancy/value theory, focusing on risk preference or level of aspiration and building upon the foundation laid by Lewin and Tolman. Atkinson accepted that motivated behavior is determined by anticipated costs and benefits, or what one expects to gain from success versus what is anticipated to be lost given failure. However, unlike Lewin and Tolman, the gains and losses were in part determined by individual differences in the motive for success and fear of failure. In addition, the incentive values of success and failure were affects, respectively labeled pride and shame. Hence, Atkinson altered the pleasure/pain principle followed by Hull and others by substituting specific emotional experiences. Atkinson's formula representing the strength of approach motivation is:

$$\text{Behavior} = f(\text{Motive for success} \times \text{Expectancy of success} \times \text{Incentive for success})$$

In spite of the theoretical disparities between Hull, Lewin, Tolman, and Atkinson, their specification of the determinants of action, as well as their meta-theories regarding the construction of motivation theory, are relatively similar. In retrospect, they were more similar than originally considered, although certainly they differed in that Hull presented a mechanistic view of humans as opposed to the cognitive perspectives of the expectancy/value theorists.

Among Atkinson's theoretical followers was **Heinz Heckhausen** (1926-1988), a German psychologist who was an influential figure throughout Europe. During World War II, Heckhausen was drafted at an early age and sent to the front lines, where he was quickly captured and shipped to America. There he worked on a farm in Iowa. One can thus imagine a time, say in late 1944, when McClelland was advising conscientious objectors (one of his wartime duties), Atkinson was aiding in the bombing of Germany (he trained fighter pilots during the war), and Heckhausen was a prisoner of war. And one can just as readily imagine another time, say 10 or 15 year later, when the three were exchanging ideas and data about achievement motivation!

ATTRIBUTION THEORY

Fritz Heider (1896-1988). I now turn to Fritz Heider, the final contributor to achievement motivation discussed here and the originator of attribution theory. Heider first came to America in 1930 to be a research assistant to Koffka at Smith College, working at the Clark School for the Deaf. He devised research methods appropriate to this population, including a silent film in which circles and triangles move on a screen. The movements were described by viewers as revealing human emotions and desires as well as intentions and purpose. In this manner, Heider, who was trained in the Gestalt tradition, attempted to establish that person and object perception are subject to the same laws.

Heider also reasoned that the basic issues in the study of motivation include how the intentions of others are inferred and what are the antecedents and consequences of causal beliefs. These questions are at the core of attribution theory, which broadened the cognitions involved in the study of motivation to more than expectancy and does not include the usual constructs of drive, need, motive and incentive to understand motivated behavior. Heider thus moved even further from Watson and Hull, championing cognitive functionalism.

Heider's influence is all the more unique in view of the fact that it is largely based on a single, nonempirical book (Heider, 1958), published when he was nearing retirement. Attribution theory gave rise to a spate of research involving concepts such as dispositional bias, fundamental attribution error, actor/observer discrepancy, causal schema, learned helplessness, causal dimensions, and so on (see Jones, & al., 1972). Many of these investigations took place after 1975, the end point of this history.¹

SOME CONCLUDING COMMENTS

Time takes much away. Gone are many institutions and scientific settings (e.g., McDougall's parapsychology lab at Duke University; Murray's Harvard Clinic; the Gestalt Center in Berlin; Kohler's chimpanzee compound in Tenerife, off the African coast; Lewin's Child Welfare Research Station at Iowa, and so on). Departed also are all these remarkable contributors to the history of motivation. Many were intellectually gifted, one might say near genius level (e.g., McDougall was a Renaissance person; Watson was the youngest Ph. D. in the history of the University of Chicago; Murray graduated at the head of his medical class; Wertheimer discussed physics with Einstein; Lewin was described as having great intellectual power). As well, many led colorful lives (think of Watson, Jung, and Morgan) and had the courage of their convictions (e.g., McClelland refused to fight in World War II; Kohler publicly reprimanded the Nazis; Tolman would not sign the loyalty oath; and so on).

¹ Since 1975 Weiner revolutionised Attribute Theory and became a crucial figure in further development of this study (ed. note).

There is an additional descriptor of these theorists, although this history spans only 75 years and casts a highly selective and limited scientific net. A distinction may be drawn between what is labeled originating versus integrative theorists. Originators create a new theory with few predecessors and influence the development of other theories. Figure 1 suggests Hull and Lewin are originators (Heider might also receive this label if a longer time period were represented). On the other hand, integrators are influenced by many prior theorists and are less likely to promote new theories. McClelland (combining trait and drive theory), Tolman (integrating expectancy/value, drive, and Gestalt theory) and Atkinson (uniting expectancy/value, trait, and Gestalt theory) seem better labeled as integrators. One might then speculate that Hull and Lewin are the giants in the history of motivation and will have the longest name recognition and deepest impact. This remains to be proven. What is more evident from this abbreviated history is that all these extraordinary figures laid down the building blocks for the science of motivation.

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