

havior as a suitable or understandable manifestation of a role.

Role theory is applied in many fields of psychology. Research has revealed that roles are typically *learned* by stages, beginning with a quite formal idea of the role, moving toward a fuller but still rigid understanding as the role is practiced, and eventually progressing toward the security to develop a personalized version of the role. Roles are typically learned in pairs or sets. For example, while learning the child's role, the child must also learn much of the parent role in order to play the child role effectively. This kind of learning is facilitated by children's play in which they play at being mother, father, nurse, and other familiar identities. In the course of the many role transitions during a lifetime, learning new roles requires the often more difficult task of unlearning old roles.

At the heart of *interpersonal, group, and intergroup processes* is the *allocation* of roles, which involves negotiation between assignment to a role by others and adoption or acceptance of a role by the actor. A process of *altercasting* has been identified in which an actor attempts to entice or force others to play those roles that enable the focal person to play a preferred role. Crucial in the acceptance of a system of roles as the basis for interaction are the assigning and weighting of rights and duties.

The *self-conception*, as an organizing component of *personality*, is often described in terms of roles. Research has shown that a self-conception reflecting an organization of one's roles into a hierarchy can be predictive of behavior in choice situations (Stryker, 1987).

Perhaps the most extensive application of role theory has been to the psychology of *adjustment*. A key concept is *role strain* (Goode, 1960), a state of tension and discomfort resulting from inability to perform a role that is high in one's role hierarchy, or anxiety about being able to perform it. Role strain may result from a poor fit between the individual's dispositions, talents, or resources and the demands of a role. Role strain also results from *role conflict*. With *intrarole* conflict, the incumbent must reconcile incompatible requirements or expectations built into a role, as in the case of a parent who is expected to work hard to make a good living for the family while devoting "quality time" to the family. With *interrole* conflict, the incumbent must deal with contradictory expectations associated with different roles. Role strain has also been linked to *role overload*, common in modern society when people assume more duties than they can conscientiously perform. This linkage, however, has been challenged by S. Sieber (1974), who advanced a principle of *role accumulation*, arguing that the privileges of multiple roles often accumulate more substantially than the duties, to the incumbent's benefit. In the context of *gender roles*, and contrary to the role-overload role strain hypothesis, a preponder-

ance of research has suggested that women who perform both homemaker and breadwinner roles feel more fulfilled than those who play only the homemaker or the occupational role.

Also important to the psychology of adjustment is identification by T. Parsons (1951) of a *sick role*, a temporary role in which the incumbent is given the *rights* of exemption from social responsibility and of being cared for, conditional upon performing the role *duties* of wanting to get well, seeking medical advice, and cooperating with medical experts, though the specific nature of the rights and duties has been shown to vary by culture and subculture. This formulation has been generalized to other *exemptive roles* such as the bereaved role and, in some cultures, a drunken role.

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ROMANES, GEORGE JOHN (1848-1894), Canadian/British comparative psychologist, evolutionist, and

physiologist. Romanes was born in Kingston, Ontario of Scottish parents. His father, a minister and professor at Queens University (Kingston), received a large inheritance and moved the family to London before Romanes was a year old. When he died at age 46 of a cerebral hemorrhage, Romanes had achieved recognition and status in physiology and evolutionary theory. He had also written well-respected works on mental evolution and had a place in history as the first comparative psychologist. However, soon after his death, his work in animal behavior was denounced, and a tarnished reputation became his legacy in psychology. Romanes was wrongfully criticized, and the restoration of his reputation has been well underway for many years. For example, it was written that Romanes's *Mental Evolution in Animals* "is now being recognized as one of the most important books in the history of psychology" (Murray, *A History of Western Psychology*, Englewood Cliffs, NJ, 1988, p. 262).

Romanes studied theology, mathematics, and medicine at Cambridge before he settled upon physiology and evolutionary biology and earned the A.M. degree. His letter to the editor, "Permanent Variation of Colour in Fish," published in *Nature* (1873) gained Romanes notice from Charles Darwin, and they became and remained close friends until Darwin's death in 1882. Throughout his career, Romanes devoted most of his research to physiology and evolutionary biology, with 1874 to 1887 being the period of his greatest activity on the subject of mental evolution. His anatomical and physiological research on jelly fish helped establish the existence of noncontinuous nervous systems and contributed to the concept of the synapse. For this work, he received honors from the Royal Society of London and was made a Fellow. Romanes's contributions in evolutionary biology are summarized in John Burdon-Sanderson's obituary of Romanes (*Proceedings of the Royal Society of London*, 1895, 57, vii-xiv).

Romanes is best known in psychology for *Animal Intelligence* (London, 1882), *Mental Evolution in Animals* (London, 1883), and *Mental Evolution in Man* (London, 1887). Darwin assisted Romanes by giving him 40 years of collected notes on animal intelligence and the original manuscript of the "Instinct" chapter that was abbreviated in *The Origin of Species* (London, 1859). The unpublished portions of "Instinct" were included as an appendix to *Mental Evolution in Animals*.

Animal Intelligence provided foundational data for the *Mental Evolution* books. Because other data were almost nonexistent, Romanes collected anecdotes which he quoted verbatim. However, quoting verbatim often meant that behavioral descriptions useful to him were confounded with anthropomorphic interpretations that he did not accept. Yet, he was attacked for such interpretations, even when he had presented conservative, reasonable, alternative interpretations. Some of Ro-

manes's interpretations were anthropomorphic and excessive by emerging standards in the 1890s, although by today's standards, even some of those interpretations now appear acceptable. As indicated in the following quotation, Romanes was concerned about how his use of anecdotes might be perceived.

[*Animal Intelligence*] may well seem but a small improvement upon the works of the anecdote-mongers. But if it is remembered that my object in these pages is the mapping out of animal psychology for the purposes of a subsequent synthesis, I may fairly lay claim to receive credit for sound scientific intentions, even where the only methods at my disposal may incidentally seem to minister to a mere love of anecdote. (p. vii)

Romanes's critics included influential American psychologists such as E. L. Thorndike and Margaret Washburn, and attacks on Romanes were usually linked with what some called "Morgan's canon of parsimony." By 1929, E. G. Boring observed, "The anecdotal method of Romanes . . . has become a term of opprobrium in animal psychology" (*History of Experimental Psychology*, New York, 1929, p. 464; iterated in the 1950 edition). Boring cited Morgan's canon and books as examples of reaction against Romanes's use of anecdotes and anthropomorphism. Opinions such as Boring's became the consensus view. It was overlooked or disregarded that Romanes was a competent experimentalist, and as Gray (1963) observed, "His objectivity was sufficient that, had he lived, he could have coped with even the iconoclastic Thorndike" (p. 225).

C. Lloyd Morgan is best remembered for his "principle" (Morgan's canon), a conservative guideline for interpreting animal behavior (*Introduction to Comparative Psychology*, London, 1894, p. 53). However, on the next page Morgan denied that simplicity [parsimony] was a necessary criterion. The canon was not antianthropomorphic. Elsewhere Morgan said, "human psychology is the only key to animal psychology" (Dixon quoting Morgan in *Nature*, 1892, 46, p. 392). The canon was not antianecdotal, because it did not address method, and Morgan himself used anecdotes. Later, Morgan did say that Romanes's data were "perhaps too largely anecdotal" (*Dictionary of National Biography*, New York, 1897).

Because Morgan's canon is so wrongly associated with Romanes's reputation, it would be fitting if Morgan's eulogy to Romanes could become equally well remembered:

[B]y his patient collection of data, by his careful discussion of these data in the light of principles clearly formulated; by his wide and forcible advocacy of his views, and above all by his own observations and experiments, Mr. Romanes left a mark in this field of investigation and interpretation which is not likely to be effaced. (p. xiii in Burdon-Sanderson cited above)

Their friendship was such that Romanes, near death, asked Morgan to oversee his unfinished work, which Morgan did. It was ironic that within 5 years after Romanes's death, his "mark" would be "effaced" in the name of Morgan (Burden-Sanderson, 1895, *Proceedings of the Royal Society of London*, 57, p. xlii).

Researchers such as Wesley Mills (*Psychological Review*, 1899, 6, 262-276) defended Romanes, and scholars showed over the years that Morgan's canon was being misunderstood. However, such voices were overwhelmed by those who misrepresented Morgan's canon and used it against Romanes. There has been renewed interest since the 1980s in correcting the record on Morgan's canon and its misuse against Romanes, and it appears that Romanes's good name has been restored. It is expected that Romanes will again be respected for his careful and insightful views about mental evolution.

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RORSCHACH, HERMANN (1884-1922), Swiss psychiatrist. Rorschach spent his childhood and youth in Schaffhausen, a picturesque 700-year-old town on the Rhine, where his father was an art teacher. He was a good but not exceptional student in all of his subjects. Much has been made of his being given the nickname of "Klex" (inkblot in German) when he was initiated into the Scaphusia, a student association. Ellenberger (1954), in a definitive biography of Rorschach, provides several possible—and provocative—explanations.

When Rorschach was completing his Kantonsschule education he wavered between art and science for his life work and wrote to the famous German naturalist, Ernst Haeckel, regarding his dilemma. Haeckel, not surprisingly, advised science and Rorschach decided on medicine, but art remained a significant resource.

Following the Swiss custom of studying at several universities, Rorschach spent his first semester in Neuchatel, the next four in Zurich, then one each in Berlin and Bern before returning to Zurich for his last three terms. Every medical student was required to take at least two semesters of clinical and theoretical psychiatry. When Rorschach chose Zurich, he had the advantage of study at the Burgholzli, the world-renowned psychiatric clinic and hospital, directed by Eugen Bleuler. Here he was exposed to Bleuler's new conceptualization of schizophrenia, Freud's psychoanalytic theory, and Jung's work with word association. From the beginning of his medical studies, Rorschach had considered psychiatry. His choice was now determined.

In Zurich, Rorschach became involved with the Russian colony, and fell in love with Olga Stempeltn, a fellow student who was from Russia. They married in 1910 and decided to go to Russia to live upon completion of their education. In the meantime, Rorschach obtained a residency at Munsterlingen, and while there completed his dissertation "On Reflex Hallucination and Kindred Manifestations." He received the doctor of