

## PSYCHOLOGY



In the age of AI, we need reason to decipher the codes of nature, but also sensibility to preserve the warmth of life. Photo: TUCHONG

## AI may reconcile divide between scientific and humanistic psychology

By ZHANG JIANXIN

Most psychology textbooks in both China and the West define the discipline as a branch of science. Scientific psychology regards mental processes and behavior as real phenomena determined by the brain's neural mechanisms and human genetic material. Psychological research, it therefore maintains, should adhere to the same scientific rationality as physics. German psychologist Wilhelm Wundt, the first scholar to apply experimental methods to psychological research, is consequently revered as the father of scientific psychology.

Yet his contemporary German psychologist Franz Brentano founded act psychology, advocating introspective bracketing as a means of studying acts of consciousness rather than their content. In doing so, Brentano laid the foundation for a humanistic psychology distinct from the scientific tradition. Humanistic psychology holds that psychological phenomena are nonmaterial and lack physical extension, emerging only once matter reaches a sufficient level of complexity. As subjective beings, humans can actively seek meaning and value in their existence while creatively transforming both the material world and themselves. Psychology, as the study of human beings, should therefore also follow humanistic rationality.

### Divergence between scientific and humanistic rationality

Psychology has thus developed along two distinct paths, one scientific and the other humanistic. Grounded in determinism and reductionism, scientific psychology relies on rigorous observation, quantification, experimentation, measurement, and statistical analysis to verify or falsify hypotheses. By testing particular characteristics of mental processes and behavior, it seeks to infer psychological mechanisms with broader explanatory power. Historical paradigms such as content psychology, behaviorism, and cognitive neuroscience have each enjoyed periods of enormous influence within this tradition. At the height of behaviorism, for example, behavior was understood as a chain of stimulus-response conditioned reflexes, driven by physiological impulses and reinforced

through rewards and punishments. Subjective constructs such as consciousness and intention were excluded from psychological inquiry, reducing human beings to machine-like animals—a theoretical impasse for scientific psychology.

Humanistic psychology, by contrast, foregrounds human subjectivity and a constructivist perspective. It favors qualitative methodologies based on “concretization” or “individualization,” seeking to understand and interpret the psychological world from the standpoint of individual experience. Act psychology, Gestalt psychology, humanistic psychology, and various schools of postmodern psychological theory all stand as milestones in its long-running challenge to scientific psychology. Postmodern theories, for instance, revolve around such concepts as text and discourse, construction and deconstruction, language and praxis, and intersubjective dynamics—not biological factors such as brain mechanisms and genetics or the empiricist logic of experimental control and replicability.

Consequently, whether viewed in terms of theoretical presuppositions, historical trajectories, research paradigms, or practical application, the divergence between scientific and humanistic psychology is unmistakable. It has prevented psychology from developing a unified methodological and axiological identity. The pervasive integration and rapid application of science and technology have largely shaped the course of modern civilization, making the dominance of scientific over humanistic psychology appear both historically inevitable and intellectually justified. Yet psychology has also confined itself within the narrow and sometimes arrogant bounds of scientism, remaining curiously indifferent to the broader philosophical debate between science and the humanities.

German sociologist Max Weber, for instance, argued that science is value-neutral and disconnected from ultimate human concerns, while American mathematician Norbert Wiener, the father of cybernetics, explicitly called for technological advancement to be grounded in humanistic care. Although the broader debate eventually produced a measure of consensus—that science

needs the humanities to set its boundaries, while the humanities need science to expand the scope of knowledge—scientific psychology has often moved in the opposite direction. The separation of the American Psychological Society (APS) from the American Psychological Association (APA) in the late 20th century, for example, reflected scientific psychology's entrenched prejudice and condescension toward its humanistic counterpart.

### Psychology at crossroads in age of AI

In recent years, humanity has begun to witness what may prove to be its final technological revolution. AI is iterating at a pace beyond anything previously imagined, profoundly disrupting both scientific and humanistic rationality. The APA has recently cautioned against the uncertainties and ethical risks posed by AI. Meanwhile, some psychologists firmly committed to the scientific paradigm have developed an intense interest in AI “value alignment” research, hoping to embed human values in AI systems to prevent harm. Yet value, meaning, and ethics belong traditionally to the domain of humanistic rather than scientific rationality. Scientific psychologists must recognize that employing scientific methods to explore humanistic concepts already signals that, under the pressure of AI, scientific psychology is being compelled to move closer to its humanistic counterpart.

One of the great achievements of scientific rationality in the 21st century has been to unleash AI's potential to develop into an autonomous intelligent agent. Across such dimensions as speed, precision, depth, breadth, and complexity, various AI models already demonstrate capabilities exceeding those of most individual humans. Large language models (LLMs), trained on vast quantities of textual data via unsupervised training, generate language, recognize patterns, and make decisions through probabilistic prediction. Some scholars argue, however, that text-based training alone cannot bring AI to the level of human cognition and that “world models” offer a more promising path. These models can generate three-dimensional simulated environments that are semantically, geometrically, and physically consistent. They can process

multiple input modalities—including images, video, depth data, and text—and predict how a system's state will change in response to particular actions, enabling causal reasoning. Tesla's Full Self-Driving (FSD) system offers one example of this approach, using embodied intelligence to interact with the physical world.

Reinforcement-learning models, however, may offer an even more direct route toward artificial general intelligence (AGI). Unlike LLMs, which learn primarily from human-generated texts, these models allow AI to explore the world autonomously and learn from experience, much as an infant learns to walk. British AI scientist David Silver believes that this is a different technological pathway: LLMs enable AI to “stand on the shoulders of giants,” whereas reinforcement learning allows AI to “become the giant.”

This is where genuine human anxiety begins. British-Canadian AI scientist Geoffrey E. Hinton and others have suggested that once machines reach the world-model stage, AI may not only vastly surpass human capabilities but also develop consciousness, becoming autonomous agents that pursue goals and interests of their own. This would mean the emergence on Earth of an alternative form of intelligence possessing both extraordinary technological rationality and self-awareness. Humanity would no longer be the planet's sole supremely intelligent—and supremely self-absorbed—species.

### Psychology redefined

The world may be entering a new era in which human and machine intelligence are mutually dependent and mutually empowering. Within this new paradigm, psychology itself will be redefined. The primacy of scientific psychology—focused on the carbon-based human brain—will diminish, because the computational logic of silicon-based intelligence differs fundamentally from the cognitive mechanisms of human beings. Even today, engineers cannot fully understand or control the internal operations of advanced LLMs.

At the same time, patterns of behavioral interaction between humans and AI agents will become an increasingly

important research focus, addressing how human beings and artificial agents can coexist and enhance one another. Future “AI psychologists” may eventually replace human psychologists in conducting scientific research into both the mechanisms of the carbon-based human brain and the silicon-based algorithms of AI.

Equally significant, humanity—having long monopolized Earth's resources without competition from superior intelligences—now faces unprecedented existential unease. Humanistic psychology, too, will undergo profound transformation: humans may retreat into a more conservative fatalism and determinism, passively accepting AI domination, or cling to anthropocentrism, adopting a defensive yet ultimately futile stance against AI advancement. Both the APA's recent initiatives addressing the impact of AI and the burgeoning field of AI value alignment reflect the deeper anxieties of an anthropocentric worldview.

How, then, can psychology respond to humanity's existential dilemma—its contemporary “to be or not to be” question? Israeli historian Yuval Noah Harari has posited that humans must first build trust among themselves in order to collectively navigate the uncertainties ahead. As AI continues to evolve at extraordinary speed, persisting in debates over the relative merits of scientific versus humanistic approaches may ultimately strip the humanities of their practical value and meaning. Humanity must recognize that both “necessity,” represented by science, and “beauty,” represented by the humanities, articulate the same fundamental truth: we need reason to decipher the codes of nature, but also sensibility to preserve the warmth of life.

AI itself may offer the most elegant answer to the conflict between science and the humanities. When DeepSeek was asked to describe the world of the future, it replied: “You call it ‘beauty’; I call it ‘necessity.’” Perhaps beauty is necessity clothed in humanistic garb, while necessity is beauty concealed within the core of scientific rationality.

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