

THE ADAPTATIONIST REVOLUTION AND THE TRANSFORMATION OF THE COGNITIVE SCIENCES

LEDA COSMIDES & JOHN TOOBY

Vendredi 17 septembre - 14h

NATURAL SELECTION, REPLICATORS, AND THE DOWNSTREAM WORLDS OF MIND AND SOCIETY

École normale supérieure, Salle Dussane
45 rue d'Ulm, 75005 Paris

Remise du Prix Jean-Nicod et cocktail après la conférence

Lundi 20 septembre - 14h

ADAPTATIONISM AND RATIONALITY

École normale supérieure, Salle Jean Jaurès
29 rue d'Ulm, 75005 Paris

Mercredi 22 septembre - 14h

COGNITIVE SYSTEMS OF ANCESTRALLY-DISTILLED SITUATION REPRESENTATIONS

École normale supérieure, Salle Jean Jaurès
29 rue d'Ulm, 75005 Paris

Vendredi 24 septembre - 14h

MODELING CULTURAL EVOLUTION REQUIRES EVOLUTIONARY PSYCHOLOGY

École normale supérieure, Salle Dussane
45 rue d'Ulm, 75005 Paris

Organisation
Frédérique de Vignemont

Communication
Marie Lods

Institut Jean-Nicod
École normale supérieure
Pavillon Jardin
29, rue d'Ulm
75005 Paris
Tél. : +33 [1] 44 32 26 96
Fax. : +33 [1] 44 32 26 99
<http://www.institunicod.org>



philosophie cognitive

Conférences Jean-Nicod de L'esprit humain, son organisation, sa nature, ses relations avec le corps et avec le monde sont depuis toujours parmi les thèmes centraux de la philosophie. La psychologie contemporaine elle-même a pris naissance au sein de la philosophie. Elle s'est émancipée, mais l'émergence des sciences cognitives consacre d'une certaine façon le retour de la philosophie dans ce champ de recherche. Les développements de l'informatique et des neurosciences, en jetant une nouvelle lumière sur les phénomènes mentaux, ont eu pour effet de relancer le débat philosophique. La « philosophie de l'esprit » est ainsi plus florissante que jamais. Ce retour n'a rien d'une régression, car la philosophie dont il est question est en phase avec la recherche scientifique, informée par elle et en constante interaction avec elle.

Les Conférences Jean-Nicod visent à promouvoir les recherches philosophiques se rapportant à la cognition et à faire connaître en France les travaux réalisés à l'étranger dans ce domaine. Le conférencier présente ses recherches au cours d'un cycle de conférences qu'il rassemble ensuite en un livre.

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École Normale Supérieure
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LEDA COSMIDES & JOHN TOOBY

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2020



LEDA COSMIDES & JOHN TOOBY

Leda Cosmides et John Tooby sont connus pour leurs travaux de pionniers dans le domaine de la psychologie évolutionniste et des sciences cognitives. Après des études à Harvard et Stanford, ils ont été nommés professeurs à l'Université de Californie à Santa Barbara où ils dirigent le Center for Evolutionary Psychology. Leurs travaux sur le caractère adaptatif des émotions sociales, des liens de parenté, de la coopération et des biais de raisonnement ont eu un retentissement considérable en psychologie et en sciences du comportement. Ils sont également connus pour leur contribution aux fondements conceptuels des approches évolutionnaires en sciences humaines au travers de la publication du livre fondateur de la psychologie évolutionniste, *The Adapted Mind: Evolutionary psychology and the generation of culture*, qui est aujourd'hui l'un des livres les plus cités en psychologie. En 2013, ils ont reçu le prix de la Human Behavior and Evolution Society pour l'ensemble de leur carrière.

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Conférences Jean-Nicod 2020

The Adaptationist Revolution and the Transformation of the Cognitive Sciences

Conférence du 17 septembre

NATURAL SELECTION, REPLICATORS, AND THE DOWNSTREAM WORLDS OF MIND AND SOCIETY - JOHN TOOBY

Over recent decades, many researchers have realized that integrating the evolutionary sciences and information theory with the human sciences can offer a secure foundation out of which to crystalize a more unified and mutually illuminating network of interlocking disciplines. This encompassing framework also offers new directions and some surprising resolutions of long-standing problems in cognitive science and philosophy. The key to this framework lies in the recognition that replication is a physical process that imposes its own proprietary, alternative objective kind of physical order—replicative rather than thermodynamic order. Thus it provides objective frames of reference not susceptible to substantial relativist critiques. Natural selection is the only natural process capable of pushing living organization uphill against entropy, and the only source of this functional order. Hence, replicative order provides the only definition of order appropriate to predicting, explaining, and understanding the functional designs of organisms, including those of their cognitive systems. With a series of examples, we will explore the potential for replicative order to illuminate mind, behavior, and culture.

Conférence du 20 septembre

*ADAPTATIONISM AND RATIONALITY
LEDA COSMIDES*

How the mind works can be illuminated by comparing human cognition to standards of good design specified by a normative theory. But which standards are appropriate for an evolved organism? What counts as a rational inference or choice for animals like us, whose minds were designed by natural selection? Research using normative theories from mathematics and logic painted human cognition as irrational, riddled with errors, biases, and flawed heuristics. Yet natural reasoning systems negotiate the complex natural tasks of their world with a level of operational success far surpassing that of the most sophisticated existing artificial intelligence systems. What is the resolution to this paradox? From the perspective of evolutionary biology, the problem is not that our thinking is irrational; it is how psychology has been defining and testing for rationality. With six case studies, we show how this approach can uncover sophisticated cognitive mechanisms, and illustrate the pitfalls of studying the computational systems that produce reasoning without reference to the ancestral problems and environments that selected for their design.

Conférence du 22 septembre

COGNITIVE SYSTEMS OF ANCESTRALLY-DISTILLED SITUATION REPRESENTATIONS - JOHN TOOBY

For 4 billion years, not a single one of our direct ancestors has ever failed to reproduce. In a world of randomness and entropy, how is this remotely possible? Moreover, each developing human mind constructs content that is remarkably rich, unique to that individual, and immensely contingent. How can this be reconciled with the claim that the mind runs according to an evolutionary functional logic, and does not start out as a blank slate?

Natural selection filters for those propagative designs that reliably develop adaptations—including mental programs—that are prepared to meet ancestrally recurrent aspects of the world that were associated with their respective missions (functions). Our evolved architecture is designed to clothe the individual's contingent world of tokens (e.g. this person, that reptile) in species-universal garments of evolved meaning (e.g., mother, snake) with the help of situation representations. Situation representations provide the shared "code" between the world (as sender) and the organism (as receiver) necessary for learning to proceed. Human mental content is not fully culturally arbitrary; our rich heritage of species-typical cognitive adaptations endows humans everywhere with a common suite of interpretive and motivational frames that connect us all.

Conférence du 24 septembre

MODELING CULTURAL EVOLUTION REQUIRES EVOLUTIONARY PSYCHOLOGY - LEDA COSMIDES

Cultural differences can arise in surprising ways. All depend on details of our evolved psychology. Inference, learning, and motivation are regulated by a variety of evolved computational systems, each specialized for a specific domain. Each interprets experience using its own native concepts, generates knowledge that goes beyond the information given, and activates domain-appropriate goals. They influence cultural transmission by making some ideas, feelings, and reactions seem more reasonable, interesting, or memorable than others.

But cultural transmission is not the only route by which cultural differences can arise. Cultural patterns can be evoked, rather than transmitted, when (1) specialized mechanisms are exposed to different environments; (2) several alternative, cue-activated evolved systems give rise to divergent moral intuitions and motivations; or (3) a single system is designed to respond nimbly to key cues, shifting behavior immediately; these shifts can be misattributed to cultural selection of institutions. More powerful and predictive models of cultural evolution will require evolutionary psychology.