

『人類進化の謎を解き明かす』 参考文献

●第1章 人類とはなにか、いかに誕生したのか

- Balter, V., Braga, J., Tlouk, P., and Thackeray, J. F. Evidence for dietary change but not landscape use in South African early hominins. *Nature* 489: 558-60.
- Brunet, M., Guy, F., Pilbeam, D., Mackaye, H. et al. (2002). A new hominid from the Upper Miocene of Chad, Central Africa. *Nature* 418: 145-51.
- De Miguel, C., and Heneberg, M. (2001). Variation in hominin brain size: how much is due to method? *Homo* 52: 3-58.
- Dunbar, R. I. M. (1993). Coevolution of neocortex size, group size and language in humans. *Behavioral and Brain Sciences* 16: 681-735.
- Dunbar, R. I. M. (2004). The Human Story. London: Faber and Faber.
- Dunbar, R. I. M. (2008). Mind the gap: or why humans aren't just great apes. *Proceedings of the British Academy* 154: 403-23.
- Dunbar, R. I. M., and Shultz, S. (2007). Understanding primate brain evolution. *Philosophical Transactions of the Royal Society, London* 362B: 649-58.
- Gowlett, J. A. J., Gamble, C., and Dunbar, R. I. M. (2012). Human evolution and the archaeology of the social brain. *Current Anthropology* 53: 693-722.
- Harrison, T. (2010). Apes among the tangled branches of human origins. *Science* 327: 532-4.
- Haslam, M., Hernandez-Aguilar, A., Ling, V. et al. (2009). Primate archaeology. *Nature* 460: 339-444.
- Ingman, M., Kaessmann, H., Pääbo, S., and Gyllensten, U. (2000). Mitochondrial genome variation and the origin of modern humans. *Nature* 408: 708-13.
- Klein, R. (1999). *The Human Career*, 2nd edition. Chicago: University of Chicago Press.
- Krause, J., Fu, Q., Good, J. et al. (2010). The complete mitochondrial DNA genome of an unknown hominin from southern Siberia. *Nature* 464: 894-97.
- Lahr, M. M., and Foley, R. (1994). Multiple dispersals and modern human origins. *Evolutionary Anthropology* 3: 48-60.
- Lockwood, C. A., Kimbel, W. H., and Lynch, J. M. (2004). Morphometrics and hominoid phylogeny: support for a chimpanzee-human clade and differentiation among great ape subspecies. *Proceedings of the National Academy of Sciences, USA* 101: 4356-60.

- McGrew, W. C. (1992). *Chimpanzee Material Culture: Implications for Human Evolution*. Cambridge: Cambridge University Press.
- Relethford, J. H. (1995). Genetics and modern human origins. *Evolutionary Anthropology* 4: 53-63.
- Reno, P., Meindl, R., McCollum, M., and Lovejoy, O. (2003). Sexual dimorphism in *Australopithecus afarensis* was similar to that of modern humans. *Proceedings of the National Academy of Sciences, USA* 100: 9404-9.
- Ruvolo, M. (1997). Molecular phylogeny of the hominoids: inferences from multiple independent DNA sequence data sets. *Molecular Biology and Evolution* 14: 248-65.
- Satta, Y., Klein, J., and Takahata, N. (2000). DNA archives and our nearest relative: the trichotomy problem revisited. *Molecular Phylogenetics and Evolution* 14: 259-75.
- Senut, B., Pickford, M., Gommery, D., Mein, P., Cheboi, K., and Coppens, Y. (2001). First hominid from the Miocene (Lukeino Formation, Kenya). *Comptes Rendus* 332: 137-44.
- Shultz, S., Nelson, E., and Dunbar, R. I. M. (2012). Hominin cognitive evolution: identifying patterns and processes in the fossil and archaeological record. *Philosophical Transactions of the Royal Society, London* 367B: 2130-40.
- Steudel-Numbers, K. L. (2006). Energetics in *Homo erectus* and other early hominins: the consequences of increased lower-limb length. *Journal of Human Evolution* 51: 445-53.
- Stoneking, M. (1993). DNA and recent human evolution. *Evolutionary Anthropology* 2: 60-73.
- Swedell, L., and Plummer, T. (2012). Papionin multilevel society as a model for hominin social evolution. *International Journal of Primatology* 33: 1165-93.
- Tooby, J., and DeVore, I. (1987). The reconstruction of hominid behavioural evolution through strategic modelling. In: W. G. Kinzey (ed.) *The Evolution of Human Behavior: Primate Models*, pp. 183-238. New York: State University of New York Press.
- Whiten, A., and Byrne, R. W. (eds) (1988). *Machiavellian Intelligence*. Oxford: Oxford University Press. リチャード・バーン、アンドリュー・ホワイトの『マキヤベリ的知性と心の理論の進化論—ヒトはなぜ賢くなったか』(藤田和生・山下博志・友永雅己訳、ナカニシヤ出版)
- Whiten, A., Horner, V., and Marshall-Pescini, S. (2003). Cultural panthropology. *Evolutionary Anthropology* 12: 92-105.
- Wynn, T., and Coolidge, F. L. (2004). The expert Neanderthal mind. *Journal of Human Evolution* 46: 467-87.

●第2章 なにが靈長類の社会の絆を支えたか

- Abbott, D. H., Keverne, E. B., Moore, G. F., and Yodoyingua, U. (1986). Social suppression of reproduction in subordinate talapoin monkeys, *Miopithecus talapoin*. In: J. Else and P. C. Lee (eds) *Primate Ontogeny*, pp. 329-41. Cambridge: Cambridge University Press.
- Altmann, J. (1980). *Baboon Mothers and Infants*. Cambridge, MA: Harvard University Press.
- Apperly, I. A. (2012). What is ‘theory of mind’? Concepts, cognitive processes and individual differences. *Quarterly Journal of Experimental Psychology* 65: 825-39.
- Aron, A., Aron, E. N., and Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology* 63: 596-612.
- Berscheid, E. (1994). Interpersonal relationships. *Annual Review of Psychology* 45: 79-129.
- Berscheid, E., Snyder, M., and Omoto, A. M. (1989). The relationship closeness inventory: assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology* 57: 792-807.
- Bettridge, C., and Dunbar, R. I. M. (2012). Perceived risk and predation in primates: predicting minimum permissible group size. *Folia Primatologica* 83: 332-52.
- Bowman, L. A., Dilley, S. R., and Keverne, E. B. (1978). Suppression of oestrogen-induced LH surges by social subordination in talapoin monkeys. *Nature* 275: 56-8.
- Broad, K. D., Curley, J. P., and Keverne, E. B. (2006). Mother-infant bonding and the evolution of mammalian social relationships. *Philosophical Transactions of the Royal Society, London* 361B: 2199-214.
- Carrington, S. J., and Bailey, A. J. (2009). Are there Theory of Mind regions in the brain? A review of the neuroimaging literature. *Human Brain Mapping* 30: 2313-35.
- Cartmill, E. A., and Byrne, R. B. (2007). Orangutans modify their gestural signaling according to their audience’s comprehension. *Current Biology* 17: 1-4.
- Cowlishaw, G. (1994). Vulnerability to predation in baboon populations. *Behaviour* 131: 293-304.
- Crockford, C., Wittig, R. M., Mundry, R., and Zuberbühler, K. (2012). Wild chimpanzees inform ignorant group members of danger. *Current Biology* 22: 142-6.
- Curley, J. P., and Keverne, E. B. (2005). Genes, brains and mammal social bonds. *Trends in Ecology and Evolution* 20: 561-7.
- Depue, R. A., and Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding: implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences* 28: 313-95.

- Dunbar, R. I. M. (1980). Determinants and evolutionary consequences of dominance among female gelada baboons. *Behavioral Ecology and Sociobiology* 7: 253-65.
- Dunbar, R. I. M. (1988). *Primate Social Systems*. London: Chapman & Hall.
- Dunbar, R. I. M. (1988). Habitat quality, population dynamics and group composition in colobus monkeys (*Colobus guereza*). *International Journal of Primatology* 9: 299-329.
- Dunbar, R. I. M. (1989). Reproductive strategies of female gelada baboons. In: A. Rasa, C. Vogel and E. Voland (eds) *Sociobiology of Sexual and Reproductive Strategies*, pp. 74-92. London: Chapman & Hall.
- Dunbar, R. I. M. (1991). Functional significance of social grooming in primates. *Folia Primatologica* 57: 121-31.
- Dunbar, R. I. M. (1995). The mating system of Callitrichid primates. I. Conditions for the coevolution of pairbonding and twinning. *Animal Behaviour* 50: 1057-70.
- Dunbar, R. I. M. (2010). Brain and behaviour in primate evolution. In: P. M. Kappeler and J. Silk (eds) *Mind the Gap: Tracing the Origins of Human Universals*, pp. 315-30. Berlin: Springer.
- Dunbar, R. I. M. (2010). The social role of touch in humans and primates: behavioural function and neurobiological mechanisms. *Neuroscience and Biobehavioral Reviews* 34: 260-68.
- Dunbar, R. I. M., and Dunbar, P. (1988). Maternal time budgets of gelada baboons. *Animal Behaviour* 36: 970-80.
- Dunbar, R. I. M., and Lehmann, J. (2013) Grooming and cohesion in primates: a comment on Grueter et al. *Evolution and Human Behavior* 34: 453-455.
- Dunbar, R. I. M., and Shultz, S. (2010). Bondedness and sociality. *Behaviour* 147: 775-803.
- Fedurek, P., and Dunbar, R. I. M. (2009). What does mutual grooming tell us about why chimpanzees groom? *Ethology* 115: 566-75.
- Gallagher, H. L., and Frith, C. D. (2003). Functional imaging of 'theory of mind'. *Trends in Cognitive Sciences* 7: 77-83.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology* 78: 1360-80.
- Granovetter, M. (1983). The strength of weak ties: a network theory revisited. *Sociological Theory* 1: 201-33.
- Grueter, C. C., Bissonnette, A., Isler, K., and van Schaik, C. P. (2013). Grooming and group cohesion in primates: implications for the evolution of language. *Evolution and Human Behavior* 34: 61-8.
- Harcourt, A. H. (1992). Coalitions and alliances: are primates more complex than non-primates? In: A. H. Harcourt and F. B. M. de Waal (eds.) *Coalitions and Alliances in Humans and Other Animals*, pp. 445-72. Oxford: Oxford University Press.
- Harcourt, A. H., and Greenberg, J. (2001). Do gorilla females join males to avoid infanticide? A quantitative model. *Animal Behaviour* 62: 905-15.
- Hare, B., Call, J., Agnetta, B., and Tomasello, M. (2000). Chimpanzees know what conspecifics do and do not see. *Animal Behaviour* 59: 771-85.
- Hare, B., Call, J., and Tomasello, M. (2001). Do chimpanzees know what conspecifics know? *Animal Behaviour* 61: 139-51.
- Hill, R. A., and Dunbar, R. I. M. (1998). An evaluation of the roles of predation rate and predation risk as selective pressures on primate grouping behaviour. *Behaviour* 135: 411-30.
- Hill, R. A., and Lee, P. C. (1998). Predation pressure as an influence on group size in Cercopithecoid primates: implications for social structure. *Journal of Zoology* 245: 447-56.
- Hill, R. A., Lycett, J., and Dunbar, R. I. M. (2000). Ecological determinants of birth intervals in baboons. *Behavioral Ecology* 11: 560-64.
- Huelsenbeck, J. P., Ronquist, F., Nielsen, R., and Bollback, J. P. (2001). Bayesian inference of phylogeny and its impact on evolutionary biology. *Science* 294: 2310-14.
- Isler, K., and van Schaik, C. P. (2006). Metabolic costs of brain size evolution. *Biology Letters* 2: 557-60.
- Karbowski, J. (2007). Global and regional brain metabolic scaling and its functional consequences. *BMC Biology* 5: 18-46.
- Keverne, E. B., Martensz, N., and Tuite, B. (1989). Beta-endorphin concentrations in cerebrospinal fluid of monkeys are influenced by grooming relationships. *Psychoneuroendocrinology* 14: 155-61.
- Kinderman, P., Dunbar, R. I. M., and Bentall, R. P. (1998). Theory-of-mind deficits and causal attributions. *British Journal of Psychology* 89: 191-204.
- Komers, P. E., and Brotherton, P. N. M. (1997). Female space use is the best predictor of monogamy in mammals. *Proceedings of the Royal Society, London* 264B: 1261-70.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2007). Group size, grooming and social cohesion in primates. *Animal Behaviour* 74: 1617-29.
- Lewis, P. A., Birch, A., Hall, A., and Dunbar, R. I. M. (2013). Higher order intentionality tasks are cognitively more demanding: evidence for the social brain hypothesis.
- Lewis, P. A., Rezaie, R., Browne, R., Roberts, N., and Dunbar, R. I. M. (2011). Ventromedial prefrontal volume predicts understanding of others and social network size. *NeuroImage* 57: 1624-9.
- Machin, A., and Dunbar, R. I. M. (2011). The brain opioid theory of social attachment: a review of the evidence. *Behaviour* 148: 985-1025.

- O'Connell, S., and Dunbar, R. I. M. (2003). A test for comprehension of false belief in chimpanzees. *Evolution and Cognition* 9: 131-9.
- Opie, C., Atkinson, Q., Dunbar, R. I. M., and Shultz, S. (2013). Male infanticide leads to social monogamy in primates. *Proceedings of the National Academy of Sciences, USA* 110: 13328-32.
- van Overwalle, F. (2009). Social cognition and the brain: a meta-analysis. *Human Brain Mapping* 30: 829-58.
- Powell, J., Lewis, P. A., Dunbar, R. I. M., García-Fiñana, M., and Roberts, N. (2010). Orbital prefrontal cortex volume correlates with social cognitive competence. *Neuropsychologia* 48: 3554-62.
- Roberts, S. B. G., and Dunbar, R. I. M. (2011). The costs of family and friends: an 18-month longitudinal study of relationship maintenance and decay. *Evolution and Human Behavior* 32: 186-97.
- Roberts, S. B. G., Arrow, H., Lehmann, J., and Dunbar, R. I. M. (2014). Close social relationships: an evolutionary perspective. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds) *Lucy to Language: The Benchmark Papers*, pp. 151-80. Oxford: Oxford University Press.
- van Schaik, C. P., and Dunbar, R. I. M. (1990). The evolution of monogamy in large primates: a new hypothesis and some crucial tests. *Behaviour* 115: 30-61.
- van Schaik, C. P., and Kappeler, P. M. (2003). The evolution of social monogamy in primates. In: Reichard, U. H., and Boesch, C. (eds) *Monogamy: Mating Strategies and Partnerships in Birds, Humans and Other Mammals*, pp. 59-80. Cambridge: Cambridge University Press.
- Shultz, S., Opie, C., and Atkinson, Q. D. (2011). Stepwise evolution of stable sociality in primates. *Nature* 479: 219-222.
- Silk, J. B., Alberts, S. C., and Altmann, J. (2003). Social bonds of female baboons enhance infant survival. *Science* 302: 1232-4.
- Silk, J. B., Beehner, J. C., Bergman, T. J., et al. (2009). The benefits of social capital: close social bonds among female baboons enhance offspring survival. *Proceedings of the Royal Society, London* 276B: 3099-104.
- Stiller, J., and Dunbar, R. I. M. (2007). Perspective-taking and memory capacity predict social network size. *Social Networks* 29: 93-104.
- Sutcliffe, A., Dunbar, R. I. M., Binder, J., and Arrow, H. (2012). Relationships and the social brain: integrating psychological and evolutionary perspectives. *British Journal of Psychology* 103: 149-68.
- Vrontou, S., Wong, A., Rau, K., Koerber, H., and Anderson, D. (2013). Genetic identification of C fibres that detect massage-like stroking of hairy skin in vivo. *Nature* 493: 669-73.
- Wittig, R. M., Crockford, C., Lehmann, J. et al. (2008). Focused grooming networks and stress alleviation in wild female baboons. *Hormones and*

Behavior 54: 170-77.

●第3章 社会脳仮説と時間収支モデル

- Barrickman, N. L., Bastian, M. L., Isler, K., and van Schaik, C. P. (2007). Life history costs and benefits of encephalization: a comparative test using data from long-term studies of primates in the wild. *Journal of Human Evolution* 54: 568-90.
- Barton, R. A., and Dunbar, R. I. M. (1997). Evolution of the social brain. In: A. Whiten and R. Byrne (eds) *Machiavellian Intelligence II*, pp. 240-63. Cambridge: Cambridge University Press.
- Bergman, T. J., Beehner, J. C., Cheney, D. L., and Seyfarth, R. M. (2003). Hierarchical classification by rank and kinship in baboons. *Science* 302: 1234-6.
- Bettridge, C., and Dunbar, R. I. M. (2013). Perceived risk and predation in primates: predicting minimum permissible group size. *Folia Primatologica* 83: 332-352.
- Bettridge, C., Lehmann, J., and Dunbar, R. I. M. (2010). Trade-offs between time, predation risk and life history, and their implications for biogeography: a systems modelling approach with a primate case study. *Ecological Modelling* 221: 777-90.
- Byrne, R. W., and Corp, N. (2004). Neocortex size predicts deception rate in primates. *Proceedings of the Royal Society, London* 271B: 1693-9.
- Curry, O., Roberts, S. B. G., and Dunbar, R. I. M. (2013). Altruism in social networks: evidence for a 'kinship premium'. *British Journal of Psychology* 104: 283-95.
- Deeley, Q., Daly, E., Asuma, R. et al. (2008). Changes in male brain responses to emotional faces from adolescence to middle age. *NeuroImage* 40: 389-97.
- Dunbar, R. I. M. (1988). Primate Social Systems. London: Chapman & Hall.
- Dunbar, R. I. M. (1992a). Neocortex size as a constraint on group size in primates. *Journal of Human Evolution* 22: 469-93.
- Dunbar, R. I. M. (1992b). A model of the gelada socio-ecological system. *Primates* 33: 69-83.
- Dunbar, R. I. M. (1993). Coevolution of neocortex size, group size and language in humans. *Behavioral and Brain Sciences* 16: 681-735.
- Dunbar, R. I. M. (1998). The social brain hypothesis. *Evolutionary Anthropology* 6: 178-90.
- Dunbar, R. I. M. (2008). Mind the gap: or why humans aren't just great apes. *Proceedings of the British Academy* 154: 403-23.
- Dunbar, R. I. M. (2011). Evolutionary basis of the social brain. In: J. Decety and J. Cacioppo (eds) *Oxford Handbook of Social Neuroscience*,

pp. 28-38. Oxford: Oxford University Press.

- Dunbar, R. I. M. (2011). Constraints on the evolution of social institutions and their implications for information flow. *Journal of Institutional Economics* 7: 345-71.
- Dunbar, R. I. M., and Shi, J. (2013). Time as a constraint on the distribution of feral goats at high latitudes. *Oikos* 122: 403-10.
- Dunbar, R. I. M., and Shultz, S. (2007). Understanding primate brain evolution. *Philosophical Transactions of the Royal Society, London* 362B: 649-58.
- Dunbar, R. I. M., and Shultz, S. (2010). Bondedness and sociality. *Behaviour* 147: 775-803.
- Dunbar, R. I. M., Korstjens, A. H., and Lehmann, J. (2009). Time as an ecological constraint. *Biological Reviews of the Cambridge Philosophical Society* 84: 413-29.
- Elton, S. (2006). Forty years on and still going strong: the use of hominin-cercopithecid comparisons in palaeoanthropology. *Journal of the Royal Anthropological Institute* 12: 19-38.
- Fay, J. M., Carroll, R., Peterhans, J. C. K., and Harris, D. (1995). Leopard attack on and consumption of gorillas in the Central African Republic. *Journal of Human Evolution* 29: 93-9.
- Hamilton, M. J., Milne, B. T., Walker, R. S., Burger, O., and Brown, J. H. (2007). The complex structure of hunter-gatherer social networks. *Proceedings of the Royal Society, London* 274B: 2195-203.
- Hill, R. A., and Dunbar, R. I. M. (2003). Social network size in humans. *Human Nature* 14: 53-72.
- Hill, R. A., Bentley, A., and Dunbar, R. I. M. (2008). Network scaling reveals consistent fractal pattern in hierarchical mammalian societies. *Biology Letters* 4: 748-51.
- Joffe, T. H. (1997). Social pressures have selected for an extended juvenile period in primates. *Journal of Human Evolution* 32: 593-605.
- Joffe, T. H., and Dunbar, R. I. M. (1997). Visual and socio-cognitive information processing in primate brain evolution. *Proceedings of the Royal Society, London* 264B: 1303-7.
- Kanai, R., Bahrami, B., Roylance, R., and Rees, G. (2012). Online social network size is reflected in human brain structure. *Proceedings of the Royal Society, London* 279: 1327-34.
- Kelley, J. L., Morrell, L. J., Inskip, C., Krause, J., and Croft, D. P. (2011). Predation risk shapes social networks in fission-fusion populations. *PLoS One* 6: e24280.
- Korstjens, A. H., and Dunbar, R. I. M. (2007). Time constraints limit group sizes and distribution in red and black-and-white colobus monkeys. *International Journal of Primatology* 28: 551-75.
- Korstjens, A. H., Lehmann, J., and Dunbar, R. I. M. (2010). Resting time as an ecological constraint on primate biogeography. *Animal Behaviour* 79: 361-74.
- Korstjens, A. H., Verhoeckx, I., and Dunbar, R. I. M. (2006). Time as a constraint on group size in spider monkey. *Behavioural Ecology and Sociobiology* 60: 683-94.
- Kudo, H., and Dunbar, R. I. M. (2001). Neocortex size and social network size in primates. *Animal Behaviour* 62: 711-22.
- Layton, R., O'Hara, S., and Bilsborough, A. (2012). Antiquity and social functions of multilevel social organization among human hunter-gatherers. *International Journal of Primatology* 33: 1215-45.
- Lehmann, J., and Dunbar, R. I. M. (2009). Network cohesion, group size and neocortex size in female-bonded Old World primates. *Proceedings of the Royal Society, London* 276B: 4417-22.
- Lehmann, J., and Dunbar, R. I. M. (2009). Implications of body mass and predation for ape social system and biogeographical distribution. *Oikos* 118: 379-90.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2007). Group size, grooming and social cohesion in primates. *Animal Behaviour* 74: 1617-29.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2007). Fission-fusion social systems as a strategy for coping with ecological constraints: a primate case. *Evolutionary Ecology* 21: 613-34.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2008a). Time management in great apes: implications for gorilla biogeography. *Evolutionary Ecology Research* 10: 517-36.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2008b). Time and distribution: a model of ape biogeography. *Ecology, Evolution and Ethology* 20: 337-59.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2010). Apes in a changing world –the effects of global warming on the behaviour and distribution of African apes. *Journal of Biogeography* 37: 2217-31.
- Lehmann, J., Lee, P. C., and Dunbar, R. I. M. (2014). Unravelling the evolutionary function of communities. In: R. I. M. Dunbar, C. S. Gamble and J. A. J. Gowlett (eds) *Lucy to Language: The Benchmark Papers*, pp. 245-76. Oxford: Oxford University Press.
- Lewis, P. A., Rezaie, R., Browne, R., Roberts, N., and Dunbar, R. I. M. (2011). Ventromedial prefrontal volume predicts understanding of others and social network size. *NeuroImage* 57: 1624-9.
- Marlowe, F. G. (2005). Hunter-gatherers and human evolution. *Evolutionary Anthropology* 14: 54-67.
- Mink, J. W., Blumenschine, R. J., and Adams, D. B. (1981). Ratio of central nervous system to body metabolism in vertebrates – its constancy

- and functional basis. *American Journal of Physiology* 241: R203-12.
- O'Donnell, S., Clifford, M., and Molina, Y. (2011). Comparative analysis of constraints and caste differences in brain investment among social paper wasps. *Proceedings of the National Academy of Sciences, USA* 108: 7107-12.
 - Palombit, R. A. (1999). Infanticide and the evolution of pairbonds in nonhuman primates. *Evolutionary Anthropology* 7: 117-29.
 - Passingham, R. E., and Wise, S. P. (2012). *The Neurobiology of the Prefrontal Cortex*. Oxford: Oxford University Press.
 - Pawłowski, B. P., Lowen, C. B., and Dunbar, R. I. M. (1998). Neocortex size, social skills and mating success in primates. *Behaviour* 135: 357-68.
 - Pérez-Barbería, J., Shultz, S., and Dunbar, R. I. M. (2007). Evidence for intense coevolution of sociality and brain size in three orders of mammals. *Evolution* 61: 2811-21.
 - Powell, J., Lewis, P. A., Roberts, N., García-Fiñana, M., and Dunbar, R. I. M. (2012). Orbital prefrontal cortex volume predicts social network size: an imaging study of individual differences in humans. *Proceedings of the Royal Society, London* 279B: 2157-62.
 - de Ruiter, J., Weston, G., and Lyon, S. M. (2011). Dunbar's number: group size and brain physiology in humans reexamined. *American Anthropologist* 113: 557-68
 - Roberts, S. B. G., and Dunbar, R. I. M. (2011). The costs of family and friends: an 18-month longitudinal study of relationship maintenance and decay. *Evolution and Human Behavior* 32: 186-97.
 - Roberts, S. B. G., Dunbar, R. I. M., Pollet, T., and Kuppens, T. (2009). Exploring variations in active network size: constraints and ego characteristics. *Social Networks* 31: 138-46.
 - Sallet, J., Mars, R. B., Noonan, M. P., et al. (2011). Social network size affects neural circuits in macaques. *Science* 334: 697-700.
 - Saramäki, J., Leicht, E., López, E., Roberts, S., Reed-Tsochas, F., and Dunbar, R. I. M. (2014). The persistence of social signatures in human communication. *Proceedings of the National Academy of Sciences, USA*.
 - Sayers, K., and Lovejoy, C. O. (2008). The chimpanzee has no clothes: a critical examination of *Pan troglodytes* in models of human evolution. *Current Anthropology* 49: 87-114.
 - van Schaik, C. P. (1983). Why are diurnal primates living in groups? *Behaviour* 87: 91-117.
 - Shultz, S., and Dunbar, R. I. M. (2006). Chimpanzee and felid diet composition is influenced by prey brain size. *Biology Letters* 2: 505-8.
 - Shultz, S., and Dunbar, R. I. M. (2007). The evolution of the social brain: Anthropoid primates contrast with other vertebrates. *Proceedings of the Royal Society, London* 274B: 2429-36.
 - Shultz, S., and Dunbar, R. I. M. (2010). Encephalisation is not a universal macroevolutionary phenomenon in mammals but is associated with sociality. *Proceedings of the National Academy of Sciences, USA* 107: 21582-6.
 - Shultz, S., and Finlayson, L. V. (2010). Large body and small brain and group sizes are associated with predator preferences for mammalian prey. *Behavioral Ecology* 21: 1073-9.
 - Shultz, S., Noe, R., McGraw, S., and Dunbar, R. I. M. (2004). A community-level evaluation of the impact of prey behavioural and ecological characteristics on predator diet composition. *Proceedings of the Royal Society, London* 271B: 725-32.
 - Smith, A. R., Seid, M. A., Jimenez, L., and Wcislo, W. T. (2010). Socially induced brain development in a facultatively eusocial sweat bee *egalopta genalis* (Halictidae). *Proceedings of the Royal Society, London* 277B: 2157-63.
 - Smuts, B. B., and Nicholson, N. (1989). Dominance rank and reproduction in female baboons. *American Journal of Primatology* 19: 229-46.
 - Tsukahara, T. (1993). Lions eat chimpanzees: the first evidence of predation by lions on wild chimpanzees. *American Journal of Primatology* 29: 1-11.
 - Wellman, B. (2012). Is Dunbar's number up? *British Journal of Psychology*. 103: 174-6.
 - Willemse, E., and Hill, R. A. (2009). A critical assessment of two species distribution models taking vervet monkeys (*Cercopithecus aethiops*) as a case study. *Journal of Biogeography* 36: 2300-312.
 - Zhou, W.-X., Sornette, D., Hill, R. A., and Dunbar, R. I. M. (2005). Discrete hierarchical organization of social group sizes. *Proceedings of the Royal Society, London* 272B: 439-44.
- 第4章 第一移行期：オーストラロピテクス
- Barrett, L., Gaynor, D., Rendall, D., Mitchell, D., and Henzi, S. P. (2004). Habitual cave use and thermoregulation in chacma baboons (*Papio hamadryas ursinus*). *Journal of Human Evolution* 46: 215-22.
 - Boesch-Achermann, H., and Boesch, C. (1993). Tool use in wild chimpanzees: new light from dark forests. *Current Directions in Psychological Science* 2: 18-22.
 - Boesch, C., and Boesch, H. (1983). Optimization of nut-cracking with natural hammers by wild chimpanzees. *Behaviour* 83: 265-86.
 - Berger, L. (2007). Further evidence for eagle predation of, and feeding damage on, the Taung child. *South African Journal of Science* 103: 496-8.

- Bettridge, C. M. (2010). *Reconstructing Australopithecine Socioecology Using Strategic Modelling Based on Modern Primates*. DPhil thesis, University of Oxford.
- Brain, C. K. (1970). New finds at the Swartkrans australopithecine site. *Nature* 225: 1112-19.
- Carvalho, S., Biro, D., Cunha, E. et al. (2012). Chimpanzee carrying behavior and the origins of human bipedality. *Current Biology* 22: R180-81.
- Cerling, T., Mbua, E., Kirera, F. et al. (2011). Diet of *Paranthropus boisei* in the early Pleistocene of East Africa. *Proceedings of the National Academy of Sciences, USA* 108: 9337-41.
- Copeland, S., Sponheimer, M., de Ruiter, J. et al. (2011). Strontium isotope evidence for landscape use by early hominins. *Nature* 474: 76-9.
- Dezecache, G., and Dunbar, R. I. M. (2012). Sharing the joke: the size of natural laughter groups. *Evolution and Human Behavior* 33: 775-9.
- Dunbar, R. I. M. (2010). Deacon's dilemma: the problem of pairbonding in human evolution. In: R. I. M. Dunbar, C. Gamble and J. A. G. Gowlett (eds) *Social Brain, Distributed Mind*, pp. 159-79. Oxford: Oxford University Press.
- Foley, R. A., and Elton, S. (1995). Time and energy: the ecological context for the evolution of bipedalism. In: E. Strasser, J. Fleagle, A. Rosenberger and H. McHenry (eds) *Primate Locomotion: Recent Advances*, pp. 419-33. New York: Plenum Press.
- Hunt, K. D. (1994). The evolution of human bipedality: ecology and functional morphology. *Journal of Human Evolution* 26: 183-202.
- Klein, R. G. (2000). *The Human Career: Human Biological and Cultural Origins*, 3rd edition. Chicago: Chicago University Press.
- Lawrence, K. T., Sosdian, S., White, H. E., and Rosenthal, Y. (2010). North Atlantic climate evolution through the Plio-Pleistocene climate transitions. *Earth and Planetary Science Letters* 300: 329-42.
- Lehmann, J., and Dunbar, R. I. M. (2009). Implications of body mass and predation for ape social system and biogeographical distribution. *Oikos* 118: 379-90.
- Lovejoy, C. O. (1981). The origin of man. *Science* 211: 341-50.
- Lovejoy, C. O. (2009). Reexamining human origins in light of *Ardipithecus ramidus*. *Science* 326: 74e1-8.
- McGraw, W. S., Cooke, C., and Shultz, S. (2006). Primate remains from African crowned eagle (*Stephanoaetus coronatus*) nests in Ivory Coast's Tai Forest: Implications for primate predation and early hominid taphonomy in South Africa. *American Journal of Physical Anthropology* 131: 151-65.
- McPherron, S., Alemseged, Z., Marean, C. et al. (2010). Evidence for stone tool-assisted consumption of animal tissues before 3.39 million years ago at Dikika, Ethiopia. *Nature* 466: 857-60.
- Marlowe, F., and Berbesque, J. (2009). Tubers as fallback foods and their impact on Hadza hunter-gatherers. *American Journal of Physical Anthropology* 140: 751-58.
- Nelson, E., and Shultz, S. (2010). Finger length ratios (2D:4D) in anthropoids implicate reduced prenatal androgens in social bonding. *American Journal of Physical Anthropology* 141: 395-405.
- Nelson, E., Rolian, C., Cashmore, L., and Shultz, S. (2011). Digit ratios predict polygyny in early apes, *Ardipithecus*, Neanderthals and early modern humans but not in *Australopithecus*. *Proceedings of the Royal Society, London* 278B: 1556-63.
- Pawłowski, B. P., Lowen, C. B., and Dunbar, R. I. M. (1998). Neocortex size, social skills and mating success in primates. *Behaviour* 135: 357-68.
- Platt, J. R. (1964). Strong inference. *Science* 146: 347-53.
- Pontzer, H., Raichlen, D. A., Sockol, M. D. (2009). The metabolic costs of walking in humans, chimpanzees and early hominins. *Journal of Human Evolution* 56: 43-54.
- Reno, P. L., McCollum, M. A., Meindl, R. S., and Lovejoy, C. O. (2010). An enlarged postcranial sample confirms *Australopithecus afarensis* dimorphism was similar to modern humans. *Philosophical Transactions of the Royal Society* 365B: 3355-63.
- Reno, P. L., Meindl, R. S., McCollum, M. A., and Lovejoy, C. O. (2003). Sexual dimorphism in *Australopithecus afarensis* was similar to that of modern humans. *Proceedings of the National Academy of Sciences, USA* 100: 9404-9.
- Richmond, B. G., Aiello, L. C., and Wood, B. (2002). Early hominin limb proportions. *Journal of Human Evolution* 43: 529-48.
- Richmond, B. G., Strait, D. S., and Begun, D. R. (2001). Origin of human bipedalism: the knuckle-walking hypothesis revisited. *Yearbook of Physical Anthropology* 44: 70-105.
- Ruxton, G. D., and Wilkinson, D. M. (2011). Thermoregulation and endurance running in extinct hominins: Wheeler's models revisited. *Journal of Human Evolution* 61: 169-75.
- Ruxton, G. D., and Wilkinson, D. M. (2011). Avoidance of overheating and selection for both hair loss and bipedality in hominins. *Proceedings of the National Academy of Sciences, USA* 108: 20965-9.
- Schmid, P., Churchill, S. E., Nalla, S. et al. (2013). Mosaic morphology in the thorax of *Australopithecus sediba*. *Science* 340.
- Sockol, M. D., Raichlen, D. A., and Pontzer, H. (2007). Chimpanzee locomotor energetics and the origin of human bipedalism. *Proceedings of the National Academy of Sciences, USA* 104: 12265-9.

- Sponheimer, M., and Lee-Thorpe, J. (2003). Differential resource utilization by extant great apes and australopithecines: towards solving the C₄ conundrum. *Comparative Biochemistry and Physiology* 136A: 27-34.
- Sponheimer, M., Lee-Thorpe, J., de Ruiter, D. et al. (2005). Hominins, sedges, and termites: new carbon isotope data from the Sterkfontein valley and Kruger National Park. *Journal of Human Evolution* 48: 301-12.
- Tsukahara, T. (1993). Lions eat chimpanzees: the first evidence of predation by lions on wild chimpanzees. *American Journal of Primatology* 29: 1-11.
- Ungar, P. S., and Sponheimer, M. (2011). The diets of early hominins. *Science* 334: 190-93.
- Ungar, P. S., Grine, F. E., and Teaford, M. F. (2006). Diet in early *Homo*: a review of the evidence and a new model of adaptive versatility. *Annual Review of Anthropology* 35: 209-28.
- Wheeler, P. E. (1984). The evolution of bipedality and loss of functional body hair in hominids. *Journal of Human Evolution* 13: 91-8.
- Wheeler, P. E. (1985). The loss of functional body hair in man: the influence of thermal environment, body form and bipedality. *Journal of Human Evolution* 14: 23-8.
- Wheeler, P. E. (1991). The thermoregulatory advantages of hominid bipedalism in open equatorial environments: the contribution of increased convective heat loss and cutaneous evaporative cooling. *Journal of Human Evolution* 21: 107-15.
- Wheeler, P. E. (1991). The influence of bipedalism on the energy and water budgets of early hominids. *Journal of Human Evolution* 21: 117-36.
- Wheeler, P. E. (1992). The thermoregulatory advantages of large body size for hominids foraging in savannah environments. *Journal of Human Evolution* 23: 351-62.
- Wheeler, P. E. (1992). The influence of the loss of functional hair on the water budgets of early hominids. *Journal of Human Evolution* 23: 379-88.
- Wheeler, P. E. (1993). The influence of stature and body form on hominid energy and water budgets: a comparison of Australopithecus and early *Homo* physiques. *Journal of Human Evolution* 24: 13-28.

●第5章 第二移行期：初期木毛属

- Aiello, L. C., and Wells, J. (2002). Energetics and the evolution of the genus *Homo*. *Annual Review of Anthropology* 31: 323-38.
- Aiello, L. C., and Wheeler, P. (1995). The expensive tissue hypothesis: the brain and the digestive system in human evolution. *Current Anthropology* 36: 199-221.
- Allen, K. L., and Kay, R. F. (2012). Dietary quality and encephalization in

- platyrhine primates. *Proceedings of the Royal Society, London* 279B: 715-21.
- Alperson-Afil, N. (2008). Continual fire-making by hominins at Gesher Benot Ya'aqov, Israel. *Quaternary Science Reviews* 27: 1733-9.
- Bailey, D., and Geary, D. (2009). Hominid Brain Evolution. *Human Nature* 20: 67-79.
- Barbetti, M., Clark, J. D., Williams, F. M., and Williams, M. A. J. (1980). Palaeomagnetism and the search for very ancient fireplaces in Africa. Results from a million-year-old Acheulian site in Ethiopia. *Anthropologie* 18: 299-304.
- Behrensmeyer, A. K., Todd, N. E., Potts, R., and McBrinn, G. E. (1997). Late Pliocene faunal turnover in the Turkana Basin, Kenya and Ethiopia. *Science* 278: 1589-94.
- Bellomo, R. V. (1994). Methods of determining early hominid behavioural activities associated with the controlled use of fire at FxJj20 Main, Koobi Fora, Kenya. *Journal of Human Evolution* 27: 173-95.
- Berna, F., Goldberg, P., Horwitz, L. K. et al. (2012). Microstratigraphic evidence of in situ fire in the Acheulean strata of Wonderwerk Cave, Northern Cape Province, South Africa. *Proceedings of the National Academy of Sciences, USA* 109: E1215-20.
- Binford, L. R., and Ho, C. K. (1985). Taphonomy at a distance: Zhoukoudian, 'the cave home of Beijing man'? *Current Anthropology* 26: 413-42.
- Brain, C. K., and Sillen, A. (1988). Evidence from the Swartkrans cave for the earliest use of fire. *Nature* 336: 464-6.
- Brown, K. S., Marean, C. W., Herries, A. I. R. et al. (2009). Fire as an engineering tool of early modern humans. *Science* 325: 859-62.
- Carmody, R. N., and Wrangham, R. W. (2009). The energetic significance of cooking. *Journal of Human Evolution* 57: 379-91.
- Clark, J. D., and Harris, J. W. K. (1985). Fire and its roles in early hominid lifeways. *African Archaeological Review* 3: 3-27.
- Coqueugniot, H., Hublin, J.-J., Veillon, F., Hou.t, F., and Jacob, T. (2004). Early brain growth in *Homo erectus* and implications for cognitive ability. *Nature* 431: 299-302.
- Cordain, L., Miller, J. B., Eaton, S. B., Mann, N., Holt, S. H. A., and Speth, J. D. (2000). Plant-animal subsistence ratios and macronutrient energy estimations in worldwide hunter-gatherer diets. *American Journal of Clinical Nutrition* 71: 682-92.
- Davila Ross, M., Alcock, B., Thomas, C., and Bard, K. A. (2011). Aping expressions? Chimpanzees produce distinct laugh types when responding to laughter of others. *Emotion* 11: 1013-20.
- Davila Ross, M., Owren, M. J., and Zimmermann, E. (2009).

- Reconstructing the evolution of laughter in great apes and humans. *Current Biology*, 19, 1-6.
- deMenocal, P. B. (2004). African climate change and faunal evolution during the Pliocene/Pleistocene. *Earth and Planetary Science Letters* 220: 3-24.
 - De Miguel, C., and Heneberg, M. (2001). Variation in hominin brain size: how much is due to method? *Homo* 52: 3-58.
 - Dezecache, G., and Dunbar, R. I. M. (2012). Sharing the joke: the size of natural laughter groups. *Evolution and Human Behavior* 33: 775-9.
 - Dunbar, R. I. M. (2000). Male mating strategies: a modelling approach. In: P. Kappeler (ed.) *Primate Males*, pp. 259-68. Cambridge: Cambridge University Press.
 - Dunbar, R. I. M. (2012). Bridging the bonding gap: the transition from primates to humans. *Philosophical Transactions of the Royal Society, London* 367B: 1837-46.
 - Dunbar, R. I. M., and Gowlett, J. A. J. (2013). Fireside chat: the impact of fire on hominin socioecology. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds) *The Lucy Project: The Benchmark Papers*, pp. 277-96. Oxford: Oxford University Press.
 - Dunbar, R. I. M., and Shultz, S. (2007). Understanding primate brain evolution. *Philosophical Transactions of the Royal Society, London* 362B: 649-58.
 - Dunbar, R. I. M., Baron, R., Frangou, A. et al. (2012). Social laughter is correlated with an elevated pain threshold. *Proceedings of the Royal Society, London* 279B: 1161-7.
 - Dunbar, R. I. M., Marriot, A., and Duncan, N. (1997). Human conversational behaviour. *Human Nature* 8: 231-46.
 - Gonzalez-Voyer, A., Winberg, S., and Kolm, N. (2009). Social fishes and single mothers: brain evolution in African cichlids. *Proceedings of the Royal Society, London* 276B: 161-7.
 - Goren-Inbar N., Alperson N., Kislev, M. E. et al. (2004). Evidence of hominin control of fire at Gesher Benot Ya'aqov, Israel. *Science* 304: 725-7.
 - Goudsblom, J. (1995). *Fire and Civilisation*. Harmondsworth: Penguin.
 - Gowlett, J. A. J. (2006). The early settlement of northern Europe: fire history in the context of climate change and the social brain. *Comptes Rendus Palevol* 5: 299-310.
 - Gowlett, J. A. J. (2010). Firing up the social brain. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds) *Social Brain and Distributed Mind*, pp. 345-70. Oxford: Oxford University Press.
 - Gowlett, J. A. J., and Wrangham, R. W. (2013). Earliest fire in Africa: towards convergence of archaeological evidence and the cooking

- hypothesis. *Azania* 48: 5-30.
- Gowlett, J. A. J., Hallos, J., Hounsell, S., Brant, V., and Debenham, N. C. (2005). Beeches Pit – archaeology, assemblage dynamics and early fire history of a Middle Pleistocene site in East Anglia, UK. *Eurasian Prehistory* 3: 3-38.
 - Gowlett, J. A. J., Harris, J. W. K., Walton, D., and Wood, B. A. (1981). Early archaeological sites, hominid remains and traces of fire from Chesowanja, Kenya. *Nature* 294: 125-9.
 - Hallos J. (2005). '15 Minutes of Fame': exploring the temporal dimension of Middle Pleistocene lithic technology. *Journal of Human Evolution* 49: 155-79.
 - Hartwig, W., Rosenberger, A., Norconk, M., and Owl, M. (2011). Relative brain size, gut size, and evolution in New World Monkeys. *Anatomical Record* 294: 2207-21.
 - Isler, K., and van Schaik, C. P. (2009). The expensive brain: a framework for explaining evolutionary changes in brain size. *Journal of Human Evolution* 57: 392-400.
 - Isler, K., and van Schaik, C. P. (2012). How our ancestors broke through the gray ceiling. *Current Anthropology* 53: S453-65.
 - Klein, R. G. (2000). *The Human Career: Human Biological and Cultural Origins*, 3rd edition. Chicago: Chicago University Press.
 - Kotrschal, A., Rogell, B., Bundesen, A. et al. (2013). Artificial selection on relative brain size in the guppy reveals costs and benefits of evolving a larger brain. *Current Biology* 23: 1-4.
 - Larson, S. G. (2007). Evolutionary transformation of the hominin shoulder. *Evolutionary Anthropology* 16: 172-87.
 - Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2007). Group size, grooming and social cohesion in primates. *Animal Behaviour* 74: 1617-29.
 - Leonard, W. R., Robertson, M. L., Snodgrass, J. J., and Kuzawa, C. W. (2003). Metabolic correlates of hominid brain evolution. *Comparative Biochemistry and Physiology* 136A: 5-15.
 - Ludwig, B. (2000). New evidence for the possible use of controlled fire from ESA sites in the Olduvai and Turkana basins. *Journal of Human Evolution* 38: A17.
 - de Lumley, H. (2006). Il y a 400,000 ans: la domestication du feu, un formidable moteur d'hominisation. In: H. de Lumley (ed.) *Climats, Cultures et Sociétés aux Temps Préhistoriques, de l'Apparition des Hominidés Jusqu'au Néolithique*. *Comptes Rendus Palevol* 5: 149-54.
 - McKinney, C. (2001). The uranium-series age of wood from Kalambo Falls. Appendix D in: J. D. Clark (ed.) 2001. *Kalambo Falls*, Vol. 3, pp. 665-74. Cambridge: Cambridge University Press.
 - Maslin, M. A., and Trauth, M. H. (2009). Plio-Pleistocene East African

- pulsed climate variability and its influence on early human evolution. In: F. E. Grine, J. G. Fleagle and R. E. Leakey (eds.) *The First Humans: Origin and Early Evolution of the Genus Homo*, pp. 151-8. Berlin: Springer.
- Morwood, M., Soejono, R., Roberts, R. et al. Archaeology and age of a new hominin from Flores in eastern Indonesia. *Nature* 431: 1087-91. <http://www.nature.com/nature/journal/v431/n7012/abs/nature02956.html> - a8(2004).
 - Navarette, A., van Schaik, C. P., and Isler, K. (2011). Energetics and the evolution of human brain size. *Nature* 480: 91-3.
 - Niven, J. E., and Laughlin, S. B. (2008). Energy limitation as a selective pressure on the evolution of sensory systems. *Journal of Experimental Biology* 211: 1792-804.
 - Osaka City University (2011). Catalogue of Fossil Hominids Database. <http://gbs.ur-plaza.osaka-cu.ac.jp/kaseki/index.html>
 - Pawtowski, B. P., Lowen, C. B., and Dunbar, R. I. M. (1998). Neocortex size, social skills and mating success in primates. *Behaviour* 135: 357-68.
 - Plavcan, J. M. (2012). Body size, size variation, and sexual size dimorphism in early *Homo*. *Current Anthropology* 53: S409-23.
 - Preece, R. C., Gowlett, J. A. J., Parfitt, S. A., Bridgland, D. R., and Lewis, S. G. (2006). Humans in the Hoxnian: habitat, context and fire use at Beeches Pit, West Stow, Suffolk, UK. *Journal of Quaternary Science* 21: 485-96.
 - Provine, R. (2000). *Laughter*. Harmondsworth: Penguin Books.
 - Richmond, B. G., Aiello, L. C., and Wood, B. (2002). Early hominin limb proportions. *Journal of Human Evolution* 43: 529-48.
 - Roach, N. T., Venkadesan, M., Rainbow, M. J., and Lieberman, D. E. (2013). Elastic energy storage in the shoulder and the evolution of high-speed throwing in *Homo*. *Nature* 498: 483-7.
 - Roebroeks, W., and Villa, P. (2011). On the earliest evidence for habitual use of fire in Europe. *Proceedings of the National Academy of Sciences, USA* 108: 5209-14.
 - Rolland, N. (2004). Was the emergence of home bases and domestic fire a punctuated event? A review of the Middle Pleistocene record in Eurasia. *Asian Perspectives* 43: 248-80.
 - Shipman, P., and Walker, A. (1989). The costs of becoming a predator. *Journal of Human Evolution* 18: 373-92.
 - Shultz, S., and Dunbar, R. I. M. (2010). Social bonds in birds are associated with brain size and contingent on the correlated evolution of life-history and increased parental investment. *Biological Journal of the Linnean Society* 100: 111-23.
 - Shultz, S., and Dunbar, R. I. M. (2010). Encephalisation is not a universal

- macroevolutionary phenomenon in mammals but is associated with sociality. *Proceedings of the National Academy of Sciences, USA* 107: 21582-6.
- Shultz, A., and Maslin, M. (2013). Early human speciation, brain expansion and dispersal influenced by African climate pulses. *PLoS One* 8: e76750.
 - Simpson, S. W., Quade, J., Levin, N. E. et al. (2008). A female *Homo erectus* pelvis from Gona, Ethiopia. *Science* 322: 1089-92.
 - Speth, J. D. (1991). Protein selection and avoidance strategies of contemporary and ancestral foragers: unresolved issues. *Philosophical Transactions of the Royal Society, London* 334: 265-70.
 - Ungar, P. S. (2012). Dental evidence for the reconstruction of diet in African early *Homo*. *Current Anthropology* 53: S318-29.
 - Weiner S., Xu Q., Goldberg P., Lui J., and Bar-Yosef, O. (1998). Evidence for the use of fire at Zhoukoudian, China. *Science* 281: 251-3.
 - Williams, D. F., Peck, J., Karabanov, E. B. et al. (1997). Lake Baikal record of continental climate response to orbital insolation during the past 5 million years. *Science* 278: 1114-17.
 - Wood, B., and Collard, M. (1999). The human genus. *Science* 284: 65-71.
 - Wrangham, R. W. (2010). *Catching Fire: How Cooking Made Us Human*. New York: Basic Books. リチャード・ラングム『火の賜物——ヒトは料理で進化した』(依田卓己訳、エヌティイティ出版)
 - Wrangham, R. W., and Conklin-Brittain, N. (2003). Cooking as a biological trait. *Comparative Biochemistry and Physiology A*, 136: 35-46.
 - Wrangham, R. W., and Peterson, D. (1996). *Demonic Males: Apes and the Origins of Human Violence*. New York: Houghton Mifflin. リチャード・ラングム、デイル・ピーターソン『男の凶暴性はどこからきたか』(山下篤子訳、三田出版会)
 - Wrangham, R. W., Jones, J. H., Laden, G., Pilbeam, D., and Conklin-Brittain, N. (1999). The raw and the stolen: cooking and the ecology of human origins. *Current Anthropology* 40: 567-94.
 - Wrangham, R. W., Wilson, M. L., and Muller, M. N. (2006). Comparative rates of violence in chimpanzees and humans. *Primates* 47: 14-26.
 - Wu, X., Schepartz, L. A., Falk, D., and Liu, W. (2006). Endocranial cast of Hexian *Homo erectus* from South China. *American Journal of Physical Anthropology* 130: 445-54.
- 第6章 第三移行期：旧人
- Bailey, D., and Geary, D. (2009). Hominid brain evolution. *Human Nature* 20: 67-79.
 - Beals, K. L., Courtland, L. S., Dodd, S. M. et al.(1984). Brain size, cranial morphology, climate, and time machines. *Current Anthropology* 25: 301-

- Bergman (2013). Speech-like vocalized lip-smacking in geladas. *Current Biology* 23: R268–9.
- Arsuaga, J. L., Bermúdez de Castro, J. M., and Carbonell, E. (eds.) (1997). The Sima de los Huesos hominid site. *Journal of Human Evolution* 33: 105-421.
- Balzeau, A., Holloway, R. L., and Grimaud-Hervé, D. (2012). Variations and asymmetries in regional brain surface in the genus *Homo*. *Journal of Human Evolution* 62: 696-706.
- Bruner, E., Manzi, G., and Arsuaga, J. L. (2003). Encephalization and allometric trajectories in the genus *Homo*: evidence from the Neandertal and modern lineages. *Proceedings of the National Academy of Sciences, USA* 100: 15335-40.
- Carbonell, E., and Mosquera, A. (2006). The emergence of a symbolic behaviour: the sepulchral pit of Sima de los Huesos, Sierra de Atapuerca, Burgos, Spain. *Comptes Rendus Palevol* 5: 155-60.
- Churchill, S. E. (1998). Cold adaptation, heterochrony, and Neandertals. *Evolutionary Anthropology* 7: 46-61.
- Cohen, E., Ejsmond-Frey, R., Knight, N., and Dunbar, R. I. M. (2010). Rowers' high: behavioural synchrony is correlated with elevated pain thresholds. *Biology Letters* 6: 106-8.
- Dunbar, R. I. M. (2011). On the evolutionary function of song and dance. In: N. Bannan (ed.) *Music, Language and Human Evolution*, pp. 201-14. Oxford: Oxford University Press.
- Dunbar, R. I. M., and Shi, J. (2013). Time as a constraint on the distribution of feral goats at high latitudes. *Oikos* 122: 403-10.
- Dunbar, R. I. M., Kaskatis, K., MacDonald, I., and Barra, V. (2012). Performance of music elevates pain threshold and positive affect. *Evolutionary Psychology* 10: 688-702.
- Foley, R. A., and Lee, P. C. (1989). Finite social space, evolutionary pathways, and reconstructing hominid behavior. *Science* 243: 901-6.
- Gunz, P., Neubauer, S., Golovanova, L. et al. (2012). A uniquely modern human pattern of endocranial development. Insights from a new cranial reconstruction of the Neandertal newborn from Mezmaiskaya. *Journal of Human Evolution* 62: 300-13.
- Gustison, M. L., le Roux, A., and Bergman, T. J. (2012). Derived vocalizations of geladas (*Theropithecus gelada*) and the evolution of vocal complexity in primates. *Philosophical Transactions of the Royal Society, London B* 367B: 1847-59.
- Holmes, J. A., Atkinson, T., Derbyshire, D. P. F. et al. (2010). Middle Pleistocene climate and hydrological environment at the Boxgrove hominin site (West Sussex, UK) from ostracod records. *Quaternary*

- Joffe, T., and Dunbar, R. I. M. (1997). Visual and socio-cognitive information processing in primate brain evolution. *Proceedings of the Royal Society, London* 264B: 1303-7.
- Kirk, E. C. (2006). Effects of activity pattern on eye size and orbital aperture size in primates. *Journal of Human Evolution* 51: 159-70.
- Klein, R. G. (2000). *The Human Career: Human Biological and Cultural Origins*, 3rd edition. Chicago: Chicago University Press.
- Krings, M., Stone, A., Schmitz, R. W., Krainitzki, H., Stoneking, M., and Pääbo, S. (1997). Neandertal DNA sequences and the origin of modern humans. *Cell* 90: 19-30.
- Lalueza-Fox, C., Rosas, A., Estalrich, A. et al. (2010). Genetic evidence for patrilocal mating behaviour among Neandertal groups. *Proceedings of the National Academy of Sciences, USA* 108: 250-53.
- McNeill, W. H. (1995). *Keeping in Time Together: Dance and Drill in Human History*. Cambridge, MA: Harvard University Press.
- Maslin, M. A., and Trauth, M. H. (2009). Plio-Pleistocene East African pulsed climate variability and its influence on early human evolution. In: F. E. Grine, J. G. Fleagle and R. E. Leakey (eds) *The First Humans: Origin and Early Evolution of the Genus Homo*, pp. 151-8. Berlin: Springer.
- Mithen, S. (2005). *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*. Cambridge, MA: Harvard University Press. スティーヴン・ミズン『歌うネアンデルタール——音楽と言語から見るヒトの進化』(熊谷淳子訳、早川書房)
- Niven, L., Steele, T., Rendu, W. et al. (2012). Neandertal mobility and largegame hunting: the exploitation of reindeer during the Quina Mousterian at Chez-Pinaud Jonzac (Charente-Maritime, France). *Journal of Human Evolution* 63: 624-35.
- Noonan, J. P., Coop, G., Kudaravalli, S. et al. (2006). Sequencing and analysis of Neanderthal genomic DNA. *Science* 314: 1113-18.
- Osaka City University (2011). Catalogue of Fossil Hominids Database. <http://gbs.ur-plaza.osaka-cu.ac.jp/kaseki/index.html>.
- Pearce, E., and Dunbar, R. I. M. (2012). Latitudinal variation in light levels drives human visual system size. *Biology Letters* 8: 90-93.
- Pearce, E., Stringer, C., and Dunbar, R. I. M. (2013). New insights into differences in brain organisation between Neanderthals and anatomically modern humans. *Proceedings of the Royal Society, London* 280B.
- Reed, K. E. (1997). Early hominid evolution and ecological change through the African Plio-Pleistocene. *Journal of Human Evolution* 32: 289-322.
- Reed, K. E., and Russak, S. M. (2009). Tracking ecological change in relation to the emergence of *Homo* near the Plio-Pleistocene boundary.

- In: F. E. Grine, J. G. Fleagle and R. E. Leakey (eds) *The First Humans: Origin and Early Evolution of the Genus Homo*, pp. 159-71. Berlin: Springer.
- Reich, R., Green, R., Kircher, M. et al. (2010). Genetic history of an archaic hominin group from Denisova cave in Siberia. *Nature* 468: 1053-60.
 - Rhodes, J. A., and Churchill, S. E. (2009). Throwing in the Middle and Upper Paleolithic: inferences from an analysis of humeral retroversion. *Journal of Human Evolution* 56: 1-10.
 - Richards, M. P., and Trinkaus, E. (2009). Isotopic evidence for the diets of European Neanderthals and early modern humans. *Proceedings of the National Academy of Sciences, USA* 106: 16034-9.
 - Richards, M. P., Pettitt, P. B., Trinkaus, E., Smith, F. H., Paunović, M., and Karavanić, I. (2000). Neanderthal diet at Vindija and Neanderthal predation: the evidence from stable isotopes. *Proceedings of the National Academy of Sciences, USA* 97: 7663-6.
 - Richards, M. P., Jacobi R., Cook, J., Pettitt, P. B., and Stringer, C. B. (2005). Isotope evidence for the intensive use of marine foods by Late Upper Palaeolithic humans. *Journal of Human Evolution* 49: 390-94.
 - Roach, N. T., Venkadesan, M., Rainbow, M. J., and Lieberman, D. E. (2013). Elastic energy storage in the shoulder and the evolution of high-speed throwing in *Homo*. *Nature* 498: 483-7.
 - Roberts, M. B., Stringer, C. B., and Parfitt, S. A. (1994). A hominid tibia from Middle Pleistocene sediments at Boxgrove, UK. *Nature* 369: 311-13.
 - Roberts, S. B. G., Dunbar, R. I. M., Pollet, T., and Kuppens, T. (2009). Exploring variations in active network size: constraints and ego characteristics. *Social Networks* 31: 138-46.
 - Saladié, P., Huguet, R., Rodríguez-Hidalgo, A. et al. (2012). Intergroup cannibalism in the European Early Pleistocene: the range expansion and imbalance of power hypotheses. *Journal of Human Evolution* 63: 682-95.
 - Schmitt, D., Churchill, S. E., and Hylander, W. L. (2003). Experimental evidence concerning spear use in Neandertals and early modern humans. *Journal of Archaeological Science* 30: 103-14.
 - Sutcliffe, A., Dunbar, R. I. M., Binder, J., and Arrow, H. (2012). Relationships and the social brain: integrating psychological and evolutionary perspectives. *British Journal of Psychology* 103: 149-68.
 - Thieme, H. (1998). The oldest spears in the world: Lower Palaeolithic hunting weapons from Schöningen, Germany. In: E. Carbonell, J. M. Bermudez de Castro, J. L. Arsuaga and X. P. Rodriguez (eds) *Los Primeros Pobladores de Europa [The First Europeans: Recent Discoveries and Current Debate]*, pp. 169-93. Aldecoa: Burgos.
 - Thieme, H. (2005). The Lower Palaeolithic art of hunting: the case of Schöningen 13 II-4, Lower Saxony, Germany. In: C. S. Gamble and M. Porr (eds) *The Hominid Individual in Context: Archaeological Investigations of Lower and Middle Palaeolithic Landscapes, Locales and Artefacts*, pp. 115-32. London: Routledge.
 - Vallverdú, J., Allué, E., Bischoff, J. L. et al. (2005). Short human occupations in the Middle Palaeolithic level I of the Abric Romaní rock-shelter (Capellades, Barcelona, Spain). *Journal of Human Evolution* 48: 157-74.
 - Vaquero, M., and Pastó, I. (2001). The definition of spatial units in Middle Palaeolithic sites: the hearth related assemblages. *Journal of Archaeological Science* 28: 1209-20.
 - Vaquero, M., Vallverdú, J., Rosell, J., Pastó, I., and Allué, E. (2001). Neandertal behavior at the Middle Palaeolithic site of Abric Romaní, Capellades, Spain. *Journal of Field Archaeology* 28: 93-114.
 - Weaver, T. D., and Hublin, J.-J. (2009). Neandertal birth canal shape and the evolution of human childbirth. *Proceedings of the National Academy of Sciences, USA* 106: 8151-6.
 - Wilkins, J., Schoville, B. J., Brown, K. S., and Chazan, M. (2012). Evidence for early hafted hunting technology. *Science* 338: 9426.
 - Zollikofer, C. P. E., Ponce de León, M. S., Vandermeersch, B., and Lévéque, F. (2002). Evidence for interpersonal violence in the St Césaire Neanderthal. *Proceedings of the National Academy of Sciences, USA* 99: 6444-8.
- 第7章 第四移行期：現生人類
- Aiello, L. C. (1996). Terrestriality, bipedalism, and the origin of language. In: G. Runciman, J. Maynard-Smith and R. I. M. Dunbar (eds) *Evolution of Social Behaviour Patterns in Primates and Man*, pp. 269-89. Oxford: Oxford University Press.
 - Aiello, L. C., and Dunbar, R. I. M. (1993). Neocortex size, group size and the evolution of language. *Current Anthropology* 34: 184-93.
 - Aiello, L. C., and Wheeler, P. (2003). Neanderthal thermoregulation and the glacial climate. In: T. H. van Andel and W. Davies (eds.) *Neandertals and Modern Humans in the European Landscape During the Late Glaciation*. Cambridge: Cambridge University Press.
 - Arensburg, B., Tillier, A. M., Vandermeersch, B., Duday, H., Schepartz, L. A., and Rak, Y. (1989). A Middle Palaeolithic human hyoid bone. *Nature* 338, 758-60.
 - Atkinson, Q. D., Gray, R. D., and Drummond, A. J. (2009). Bayesian coalescent inference of major human mitochondrial DNA haplogroup expansions in Africa. *Proceedings of the Royal Society, London* 276B: 367-73.

- Bailey, D., and Geary, D. (2009). Hominid Brain Evolution. *Human Nature* 20: 67-79.
- Balzeau, A., Holloway, R. L., and Grimaud-Hervé, D. (2012). Variations and asymmetries in regional brain surface in the genus *Homo*. *Journal of Human Evolution* 62: 696-706.
- Barton, R. A., and Venditti, C. (2013). Human frontal lobes are not relatively large. *Proceedings of the National Academy of Sciences, USA* 111: 942-947.
- Bruner, E., Manzi, G., and Arsuaga, J. L. (2003). Encephalization and allometric trajectories in the genus *Homo*: Evidence from the Neandertal and modern lineages. *Proceedings of the National Academy of Sciences, USA* 100: 15335-40.
- Burke, A. (2012). Spatial abilities, cognition and the pattern of Neanderthal and modern human dispersals. *Quaternary International* 247: 230-35.
- Caspari, R., and Lee, S.-H. (2004). Older age becomes common late in human evolution. *Proceedings of the National Academy of Sciences, USA* 101: 10895-900.
- Comas, I., Coscolla, M., Luo, T. et al. (2013). Out-of-Africa migration and Neolithic coexpansion of *Mycobacterium tuberculosis* with modern humans. *Nature Genetics* 45: 1176-82.
- Cowlishaw, G., and : Dunbar, R. I. M. (2000). *Primate Conservation Biology*. Chicago IL: Chicago University Press.
- DaGusta, D., Gilbert, W. H., and Turner, S. P. (1999). Hypoglossal canal size and hominid speech. *Proceedings of the National Academy of Sciences, USA* 96: 1800-804.
- Deacon, T. W. (1995). *The Symbolic Species: The Coevolution of Language and the Human Brain*. Harmondsworth: Allen Lane. テレンス・W・ディーコン『ヒトはいかにして人となったか—言語と脳の共進化』(金子隆芳訳、新曜社)
- Dean, C., Leakey, M. G., Reid, D. et al. (2001). Growth processes in teeth distinguish modern humans from *Homo erectus* and earlier hominins. *Nature* 414: 628-31.
- Dobson, S. D. (2009). Socioecological correlates of facial mobility in nonhuman anthropoids. *American Journal of Physical Anthropology* 139: 413-20.
- Dobson, S. D. (2012). Face to face with the social brain. *Philosophical Transactions of the Royal Society* 367B: 1901-8.
- Dobson, S. D., and Sherwood, C. C. (2011). Correlated evolution of brain regions involved in producing and processing facial expressions in anthropoid primates. *Biology Letters* 7: 86-8.
- Dunbar, R. I. M. (2012). Bridging the bonding gap: the transition from primates to humans. *Philosophical Transactions of the Royal Society, London* 367B: 1837-46.
- Dunbar, R. I. M., and Shi, J. (2013). Time as a constraint on the distribution of feral goats at high latitudes. *Oikos* 122: 403-10.
- Dunsworth, H. M., Warrener, A. G., Deacon, T., Ellison, P. T., and Pontzer, H. (2012). Metabolic hypothesis for human altriciality. *Proceedings of the National Academy of Sciences, USA* 109: 15212-16.
- Enard, W., Przeworski, M., Fisher, S. E. et al. (2002). Molecular evolution of FOXP2, a gene involved in speech and language. *Nature* 418: 869-72.
- Féblot-Augustins, J. (1993). Mobility strategies in the Late Middle Palaeolithic of central Europe and western Europe: elements of stability and variability. *Journal of Anthropological Archaeology* 12: 211-65.
- Finlay, B. L., Darlington, R. B., and Nicastro, N. (2001). Developmental structure in brain evolution. *Behavioral and Brain Sciences* 24: 263-308.
- Finlayson, C. (2010). *The Humans Who Went Extinct: Why Neanderthals Died Out and We Survived*. Oxford: Oxford University Press. クライヴ・フィンレイソン『そして最後にヒトが残った—ネアンデルタール人と私たちの50万年史』(上原直子訳、白揚社)
- Fisher, S. E., and Marcus, G. F. (2006). The eloquent ape: genes, brains and the evolution of language. *Nature Reviews Genetics* 7: 9-20.
- Freeberg, T. M. (2006). Social complexity can drive vocal complexity. *Psychological Science* 17: 557-61.
- Goebel, T., Waters, M. R., and O'Rourke, D. H. (2008). The late Pleistocene dispersal of modern humans in the Americas. *Science* 319: 1497-502.
- Haesler, S., Rochefort, C., Georgi, B., Licznerski, P., Osten, P., and Scharff, C. (2007). Incomplete and inaccurate vocal imitation after knockdown of FoxP2 in songbird basal ganglia nucleus Area X. *PLoS Biology* 5: e321.
- Helgason, A., Hickey, E., Goodacre, S. et al. (2001). mtDNA and the islands of the North Atlantic: estimating the proportions of Norse and Gaelic ancestry. *American Journal of Human Genetics* 68: 723-37.
- Helgason, A., Sigurðardóttir, S., Gulcher, J. R., Ward, R., and Stefánsson, K. (2000). mtDNA and the origin of the Icelanders: deciphering signals of recent population history. *American Journal of Human Genetics* 66: 999-1016.
- Henn, B., Gignoux, C., Jobin, M. et al. (2011). Hunter-gatherer genomic diversity suggests a southern African origin for modern humans. *Proceedings of the National Academy of Sciences, USA* 108: 5154-62.
- Horan, R. D., Bulte, E., and Shogren, J. F. (2005). How trade saved humanity from biological exclusion: an economic theory of Neandertal extinction. *Journal of Economic Behavior and Organization* 58: 1-29.

- Ingman, M., Kaessmann, H., Pääbo, S., and Gyllensten, U. (2000). Mitochondrial genome variation and the origin of modern humans. *Nature*, London 408: 708-13.
 - Joffe, T. H. (1997). Social pressures have selected for an extended juvenile period in primates. *Journal of Human Evolution* 32: 593-605.
 - Jungers, W. L., Pokempner, A., Kay, R. F., and Cartmill, M. (2003). Hypoglossal canal size in living hominoids and the evolution of human speech. *Human Biology* 75: 473-84.
 - Kay, R. F., Cartmill, M., and Balow, M. (1998). The hypoglossal canal and the origin of human vocal behaviour. *Proceedings of the National Academy of Sciences, USA* 95: 5417-19.
 - Klein, R. G. (2000). *The Human Career: Human Biological and Cultural Origins*, 3rd edition. Chicago: Chicago University Press.
 - Krause, J., Lalueza-Fox, C., Orlando, L. et al. (2007). The derived FoxP2 variant of modern humans was shared with Neanderthals. *Current Biology* 17: 1908-12.
 - Lahr, M. M., and Foley, R. (1994). Multiple dispersals and modern human origins. *Evolutionary Anthropology* 3: 48-60.
 - Lewis, P. A., Rezaie, R., Browne, R., Roberts, N., and Dunbar, R. I. M. (2011). Ventromedial prefrontal volume predicts understanding of others and social network size. *NeuroImage* 57: 1624-9.
 - McComb, K., and Semple, S. (2005). Coevolution of vocal communication and sociality in primates. *Biology Letters* 1: 381-5.
 - MacLarnon, A., and Hewitt, G. (1999). The evolution of human speech: the role of enhanced breathing control. *American Journal of Physical Anthropology* 109: 341-63.
 - Martín-González, J., Mateos, A., Goikoetxea, I., Leonard, W., and Rodríguez, J. (2012). Differences between Neandertal and modern human infant and child growth models. *Journal of Human Evolution* 63: 140-49.
 - Martínez, I., Rosa, M., Jarabo, P. et al. (2004). Auditory capacities in Middle Pleistocene humans from the Sierra de Atapuerca in Spain. *Proceedings of the National Academy of Sciences, USA* 101: 9976-81.
 - Noble, W., and Davidson, I. (1991). The evolutionary emergence of modern human behaviour. I. Language and its archaeology. *Man* 26: 222-53.
 - Osaka City University (2011). Catalogue of Fossil Hominids Database. <http://gbs.ur-plaza.osaka-cu.ac.jp/kaseki/index.html>
 - Powell, J., Lewis, P. A., Dunbar, R. I. M., García-Fiñana, M., and Roberts, N. (2010). Orbital prefrontal cortex volume correlates with social cognitive competence. *Neuropsychologia* 48: 3554-62.
 - Richards, M. P., and Trinkaus, E. (2009). Isotopic evidence for the diets of European Neanderthals and early modern humans. *Proceedings of the National Academy of Sciences, USA* 38: 16034-9.
 - Semendeferi, K., Damasio, H., Frank, R., and Van Hoesen, G. W. (1997). The evolution of the frontal lobes: a volumetric analysis based on threedimensional reconstructions of magnetic resonance scans of human and ape brains. *Journal of Human Evolution* 32: 375-88.
 - Slimak, L., and Giraud, Y. (2007). Circulations sur plusieurs centaines de kilomètres durant le Paléolithique moyen. Contribution à la connaissance des sociétés néandertaliennes. *Comptes Rendus Palevol* 6: 359-68.
 - Smith, T. M., Tafforeau, P., Reid, D. J. et al. (2007). Earliest evidence of modern human life history in North African early *Homo sapiens*. *Proceedings of the National Academy of Sciences, USA* 104: 6128-33.
 - Stedman, H. H., Kozyak, B. W., Nelson, A. et al. (2004). Myosin gene mutation correlates with anatomical changes in the human lineage. *Nature* 428: 415-18.
 - Stoneking, M. (1993). DNA and recent human evolution. *Evolutionary Anthropology* 2: 60-73.
 - Shultz, A., and Maslin, M. (2013). Early human speciation, brain expansion and dispersal influenced by African climate pulses. *PLoS One* 8: e76750.
 - Thomas, M. G., Stumpf, M. P. H., and Härke, H. (2006). Evidence for an apartheid-like social structure in early Anglo-Saxon England. *Proceedings of the Royal Society, London* 273B: 2651-7.
 - Toups, M. A., Kitchen, A., Light, J. E., and Reed, D. L. (2011). Origin of clothing lice indicates early clothing use by anatomically modern humans in Africa. *Molecular Biology and Evolution* 28: 29-32.
 - Uomini, N. T. (2009). The prehistory of handedness: archaeological data and comparative ethology. *Journal of Human Evolution* 57: 411-19.
 - Uomini, N., and Meyer, G. (2013). Shared brain lateralization patterns in language and Acheulean stone tool production: a functional transcranial Doppler ultrasound study. *PLoS One* 8: e72693.
 - Williams, A., and Dunbar, R. I. M. (2013). Big brains, meat, tuberculosis, and the nicotinamide switches: co-evolutionary relationships with modern repercussions? *International Journal of Tryptophan Research* 3: 73-88.
 - Zerjal, T., Xue, Y., Bertorelle, G. et al. (2003). The genetic legacy of the Mongols. *American Journal of Human Genetics* 72: 717-21.
- 第8章 血縁、言語、文化の成り立ち
- Bader, N. O., and Lavrushin Y. A. (eds) (1998). *Upper Palaeolithic Site Sungir (graves and environment)* (*Posdnepaleolitischeskoje posselenije Sungir*). Moscow: Scientific World.

- Bailey, D., and Geary, D. (2009). Hominid Brain Evolution. *Human Nature* 20: 67-9.
- Boyer, P. (2001). *Religion Explained: The Human Instincts That Fashion Gods, Spirits and Ancestors*. London: Weidenfeld & Nicholson. パスカル・ボイヤー『神はなぜいるのか?』(叢書コムニス 6) (鈴木光太郎・中村潔訳、エヌティイ出版)
- Burton-Chellew, M., and Dunbar, R. I. M. (2011). Are affines treated as biological kin? A test of Hughes' hypothesis. *Current Anthropology* 52: 741-6.
- Cashmore, L., Uomini, N., and Chapelain, A. (2008). The evolution of handedness in humans and great apes: a review and current issues. *Journal of Anthropological Science* 86: 7-35.
- Conard, N. J. (2003). Palaeolithic ivory sculptures from southwestern Germany and the origins of figurative art. *Nature* 426: 830-83.
- Curry, O., and Dunbar, R. I. M. (2013). Do birds of a feather flock together? The relationship between similarity and altruism in social networks. *Human Nature* 24: 336-47.
- Curry, O., Roberts, S., and Dunbar, R. I. M. (2013). Altruism in social networks: evidence for a 'kinship premium'. *British Journal of Psychology* 104: 283-95.
- D'Errico, F., Henshilwood, C., Vanhaeren, M., and van Niekerk, K. (2005). *Nassarius kraussianus shell beads from Blombos Cave: evidence for symbolic behaviour in the Middle Stone Age*. *Journal of Human Evolution* 48: 3-24.
- Deacon, T. W. (1995). *The Symbolic Species: The Coevolution of Language and the Human Brain*. Harmondsworth: Allen Lane. テレンス・W・ディーコン『ヒトはいかにして人となったか——言語と脳の共進化』(金子隆芳訳、新曜社)
- Dunbar, R. I. M. (1993). Coevolution of neocortex size, group size, and language in humans. *Behavioral Brain Sciences* 16: 681-735.
- Dunbar, R. I. M. (1995). On the evolution of language and kinship. In: J. Steele and S. Shennan (eds) *The Archaeology of Human Ancestry: Power, Sex and Tradition*, pp. 380-96. London: Routledge.
- Dunbar, R. I. M. (1996). *Grooming, Gossip and the Evolution of Language*. London: Faber & Faber. ロビン・ダンバー『ことばの起源——猿の毛づくろい、人のゴシップ』(松浦俊輔・服部清美訳、青土社)
- Dunbar, R. I. M. (2008). Mind the gap: or why humans aren't just great apes. *Proceedings of the British Academy* 154: 403-23.
- Dunbar, R. I. M. (2009). Why only humans have language. In: R. Botha and C. Knight (eds) *The Prehistory of Language*, pp. 12-35. Oxford: Oxford University Press.
- Dunbar, R. I. M. (2013). The origin of religion as a small scale phenomenon. In: S. Clark and R. Powell (eds) *Religion, Intolerance and Conflict: A Scientific and Conceptual Investigation*, pp. 48-66. Oxford: Oxford University Press.
- Fincher, C. L., and Thornhill, R. (2008). Assortative sociality, limited dispersal, infectious disease and the genesis of the global pattern of religion diversity. *Proceedings of the Royal Society, London* 275B: 2587-94.
- Fincher, C. L., Thornhill, R., Murray, D. R., and Schaller, M. (2008). Pathogen prevalence predicts human cross-cultural variability in individualism/collectivism. *Proceedings of the Royal Society, London* 275B: 1279-85.
- Frankel, B. G., and Hewitt, W. E. (1994). Religion and well-being among Canadian university students: the role of faith groups on campus. *Journal of the Scientific Study of Religion* 33: 62-73.
- Hamilton, W. D. (1964). The genetical evolution of social behaviour. I, II. *Journal of Theoretical Biology* 7: 1-52.
- Henshilwood, C. S., d'Errico, F., van Niekerk, K. L. et al. (2011). A 100,000-Year-Old Ochre-Processing Workshop at Blombos Cave, South Africa. *Science* 334: 219-22.
- Henshilwood, C. S., d'Errico, F., Yates, R. et al. (2002). Emergence of modern human behavior: Middle Stone Age engravings from South Africa. *Science* 295: 1278-80.
- Hughes, A. (1988). *Kinship and Human Evolution*. Oxford: Oxford University Press.
- Klein, R. G. (2000). *The Human Career: Human Biological and Cultural Origins*, 3rd edition. Chicago: Chicago University Press.
- Koenig, H. G., and Cohen, H. J. (eds) (2002). *The Link Between Religion and Health: Psychoneuroimmunology and the Faith Factor*. Oxford University Press: Oxford.
- Kudo, H., and Dunbar, R. I. M. (2001). Neocortex size and social network size in primates. *Animal Behaviour* 62: 711-22.
- Layton, R., O'Hara, S., and Bilsborough, A. (2012). Antiquity and social functions of multilevel social organization among human hunter-gatherers. *International Journal of Primatology* 33: 1215-45.
- Lehmann, J., Lee, P. C., and Dunbar, R. I. M. (2013). Unravelling the evolutionary function of communities. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds) *Lucy to Language: The Benchmark Papers*, pp. 245-76. Oxford: Oxford University Press.
- Lewis-Williams, D. (2002). The Mind in the Cave. London: Thames & Hudson. Mesoudi, A., Whiten, A., and Dunbar, R. I. M. (2006). A bias for social information in human cultural transmission. *British Journal of Psychology* 97: 405-23.

- Mickes, L., Darby, R. S., Hwe, V. et al. (2013). Major memory for microblogs. *Memory and Cognition* 41: 481-89.
- Miller, G. (1999). Sexual selection for cultural displays. In R. I. M. Dunbar, C. Knight and C. Power (eds) *The Evolution of Culture*, pp. 71-91. Edinburgh: Edinburgh University Press.
- Nettle, D. (1999). *Linguistic Diversity*. Oxford: Oxford University Press.
- Nettle, D., and Dunbar, R. I. M. (1997). Social markers and the evolution of reciprocal exchange. *Current Anthropology* 38: 93-9.481-89.
- Osaka City University (2011). Catalogue of Fossil Hominids Database. <http://gbs.ur-plaza.osaka-cu.ac.jp/kaseki/index.html>
- Palmer, C. T. (1991). Kin selection, reciprocal altruism and information sharing among Maine lobstersmen. *Ethology and Sociobiology* 12: 221-35.
- Redhead, G., and Dunbar, R. I. M. (2013). The functions of language: an experimental study. *Evolutionary Psychology* 11: 845-54.
- Rouget, G. (1985). *Music and Trance: A Theory of the Relations Between Music and Possession*. Chicago: University of Chicago Press.
- Silk, J. B. (1980). Adoption and kinship in Oceania. *American Anthropologist* 82: 799-820.
- Silk, J. B. (1990). Which humans adopt adaptively and why does it matter? *Ethology and Sociobiology* 11: 425-6.
- Thornhill, R., Fincham, C. L., and Aran, D. (2009). Parasites, democratization, and the liberalization of values across contemporary countries. *Biology Reviews* 84: 113-31.
- Wiessner, P. (2002). Hunting, healing, and hxaro exchange: a long-term perspective on !Kung (Ju/'hoansi) large-game hunting. *Evolution and Human Behavior* 23: 1-30.

●第9章 第五移行期：新石器時代以降

- Andelman, S. (1986). Ecological and social determinants of cercopithecine mating patterns. In: D. I. Rubenstein and R. W. Wrangham (eds) *Ecological Aspects of Social Evolution*, pp. 201-16. Princeton NJ: Princeton University Press.
- Atkinson, Q. D., and Bourrat, P. (2011). Beliefs about God, the afterlife and morality support the role of supernatural policing in human cooperation. *Evolution and Human Behavior* 32: 41-9.
- Bourrat, P., Atkinson, Q. D., and Dunbar, R. I. M. (2011). Supernatural punishment and individual social compliance across cultures. *Religion, Brain and Behavior* 1: 119-34.
- Bowles, S. (2009). Did warfare among ancestral hunter-gatherers affect the evolution of human social behaviors? *Science* 324: 1293-8.
- Bowles, S. (2011). Cultivation of cereals by the first farmers was not more productive than foraging. *Proceedings of the National Academy of Sciences, USA* 108: 4760-65.

- Bugs, P., and McCarthy, L. (1984). Ayoreo infanticide: a case study. In: G. Hausfater and S. B. Hrdy (eds) *Infanticide: Comparative and Evolutionary Perspectives*, pp. 503-20. Hawthorne: Aldine de Gruyter.
- Caspary, R., and Lee, S.-H. (2004). Older age becomes common late in human evolution. *Proceedings of the National Academy of Sciences, USA* 101: 10895-900.
- Cohen, M. N., and Crane-Kramer, G. (2007). *Ancient Health: Skeletal Indicators of Agricultural and Economic Intensification*. Gainesville, FL: University Press of Florida.
- Coward, F., and Dunbar , R. I. M. (2013). Communities on the edge of civilisation. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds.) *Lucy to Language: The Benchmark Papers*, pp. 380-405. Oxford: Oxford University Press.
- Curry, O., and Dunbar, R. I. M. (2011). Altruism in networks: the effect of connections. *Biology Letters* 7: 651-3.
- Curry, O., and Dunbar, R. I. M. (2013). Do birds of a feather flock together? The relationship between similarity and altruism in social networks. *Human Nature* 24: 336-47.
- Curry, O., and Dunbar, R. I. M. (2013). Sharing a joke: the effects of a similar sense of humor on affiliation and altruism. *Evolution and Human Behavior* 34: 125-9.
- Daly, M., and Wilson, M. (1981). Abuse and neglect of children in evolutionary perspective. In: R. D. Alexander and D. W. Tinkle (eds) *Natural Selection and Social Behavior*, pp. 405-16. New York: Chiron Press.
- Daly, M., and Wilson, M. (1984). A sociobiological analysis of human infanticide. In: G. Hausfater and S. B. Hrdy (eds) *Infanticide: Comparative and Evolutionary Perspectives*, pp. 487-502. New York: Aldine de Gruyter.
- Daly, M., and Wilson, M. (1985). Child abuse and other risks of not living with both parents. *Ethology and Sociobiology* 6: 197-210.
- Daly, M., and Wilson, M. (1988). Evolutionary psychology and family homicide. *Science* 242: 519-24.
- Diamond, J. (2002). Evolution, consequences and future of plant and animal domestication. *Nature* 418: 700-707.
- Dietrich, O., Heun, M., Notroff, J., Schmidt, K., and Zarnkow, M. (2012). The role of cult and feasting in the emergence of Neolithic communities. New evidence from G.bekli Tepe, south-eastern Turkey. *Antiquity* 86: 674-95.
- Dunbar, R. I. M. (2000). Male mating strategies: a modelling approach. In: P. Kappeler (ed.) *Primate Males*, pp. 259-68. Cambridge: Cambridge

University Press.

- Dunbar, R. I. M. (2010). Deacon's dilemma: the problem of pairbonding in human evolution. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds.) *Social Brain, Distributed Mind*, pp. 159-79. Oxford: Oxford University Press.
- Dunbar, R. I. M. (2012). *The Science of Love and Betrayal*. London: Faber & Faber.
- Dunbar, R. I. M. (2012). Social cognition on the internet: testing constraints on social network size. *Philosophical Transactions of the Royal Society, London* 367B: 2192-2201.
- Dunbar, R. I. M. (2013). The origin of religion as a small scale phenomenon. In: S. Clark and R. Powell (eds) *Religion, Intolerance and Conflict: A Scientific and Conceptual Investigation*, pp. 48-66. Oxford: Oxford University Press.
- Dunbar, R. I. M., Lehmann, J., Korstjens, A. H., and Gowlett, J. A. J. (2014). The road to modern humans: time budgets, fission-fusion sociality, kinship and the division of labour in hominin evolution. In: R. I. M. Dunbar, C. Gamble and J. A. J. Gowlett (eds) *Lucy to Language: The Benchmark Papers*, pp. 333-55. Oxford: Oxford University Press.
- Ember, C. R., Adem, T. A., and Skoggard, I. (2013). Risk, uncertainty, and violence in Eastern Africa: a regional comparison. *Human Nature* 24: 33-58.
- Fehr, E., and Gächter, S. (2002). Altruistic punishment in humans. *Nature* 415: 137-40.
- Fibiger, L., Ahlstr.m, T., Bennike, P., and Schulting, R. J. (2013). Patterns of violence-related skull trauma in Neolithic southern Scandinavia. *American Journal of Physical Anthropology* 150: 190–02.
- Fisher, H. E., Aron, A., and Brown, L. L. (2006). Romantic love: a mammalian brain system for mate choice. *Philosophical Transactions of the Royal Society, London* 361B: 2173-86.
- Harcourt, A. H., Harvey, P. H., Larson, S. G., and Short, R. V. (1981). Testis weight, body weight and breeding system in primates. *Nature* 293: 55-7.
- Henrich, J., Ensminger, J., McElreath, R. et al. (2010). Markets, religion, community size, and the evolution of fairness and punishment. *Science* 327: 1480-84.
- Hewlett, B. S. (1988). Sexual selection and paternal investment among Aka pygmies. In: L. Betzig, M. Borgerhoff-Mulder and P. Turke (eds) *Human Reproductive Behaviour*, pp. 263-75. Cambridge: Cambridge University Press.
- Jankowiak, W. R., and Fischer, E. F. (1992). A cross-cultural perspective on romantic love. *Ethnology* 31: 149-55.
- Johnson, A. W., and Earle, T. K. (2001). *The Evolution of Human Societies: From Foraging Group to Agrarian State*, 2nd edition. Palo Alto, CA: Stanford University Press.
- Johnson, D. D. P. (2005). God's punishment and public goods: a test of the supernatural punishment hypothesis in 186 world cultures. *Human Nature* 16: 410-46.
- Johnson, D. D. P., and Bering, J. (2009). Hand of God, mind of man. In: J. Schloss and M. J. Murray (eds), *The Believing Primate: Scientific, Philosophical, and Theological Reflections on the Origin of Religion*, pp. 26-44. Oxford: Oxford University Press.
- Knott, C. D., and Kahlenberg, S. M. (2007). Orangutans in perspective: forced copulations and female mating resistance. In: C. J. Campbell, A. Fuentes, K. C. MacKinnon, M. Panger and S. K. Bearder (2007). *Primates in Perspective*, pp. 290-305. New York: Oxford University Press.
- Lehmann, J., Korstjens, A. H., and Dunbar, R. I. M. (2007). Fission-fusion social systems as a strategy for coping with ecological constraints: a primate case. *Evolutionary Ecology* 21: 613-34.
- Lukas, D., and Clutton-Brock, T. H. (2013). The evolution of social monogamy in mammals. *Science* 341: 526-30.
- Manning, J. T. (2002). *Digit Ratio: A Pointer to Fertility, Health, and Behavior*. New Brunswick, NJ: Rutgers University Press.
- Mesnick, S. L. (1997). Sexual alliances: evidence and evolutionary implications. In: P. A. Gowaty (ed.) *Feminism and Evolutionary Biology*, pp. 207-60. London: Chapman & Hall.
- Munro, N. D., and Grosman L. (2010). Early evidence (ca. 12,000 B.P.) for feasting at a burial cave in Israel. *Proceedings of the National Academy of Sciences, USA* 107: 15362-6.
- Naroll, R. (1956). A preliminary index of social development. *American Anthropologist* 58: 687-715.
- Nelson, E., Rolian, C., Cashmore, L., and Shultz, S. (2011). Digit ratios predict polygyny in early apes, *Ardipithecus*, Neanderthals and early modern humans but not in *Australopithecus*. *Proceedings of the Royal Society, London* 278B: 1556-63.
- Nettle, D., and Dunbar, R. I. M. (1997). Social markers and the evolution of reciprocal exchange. *Current Anthropology* 38: 93-9.
- Norenzayan, A., and Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science* 322: 58-62.
- Opie, C., Atkinson, Q. D., Dunbar, R. I. M., and Shultz, S. (2013). Male infanticide leads to social monogamy in primates. *Proceedings of the National Academy of Sciences, USA* 110: 13328-32.
- Palchykov, V., Kaski, K., Kertész, J., Barabási A.-L., and Dunbar, R. I. M. (2012). Sex differences in intimate relationships. *Scientific Reports* 2:

- Palchykov, V., Kertész, J., Dunbar, R. I. M., and Kaski, K. (2013). Close relationships: a study of mobile communication records. *Journal of Statistical Physics* 151: 735-44.
- Pérusse, D. (1993). Cultural and reproductive success in industrial societies: testing the relationship at the proximate and ultimate levels. *Behavioral and Brain Sciences* 16: 267-322.
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.
- Reno, P. L., Meindl, R. S., McCollum, M. A., and Lovejoy, C. O. (2003). Sexual dimorphism in *Australopithecus afarensis* was similar to that of modern humans. *Proceedings of the National Academy of Sciences, USA* 100: 9404-9.
- Roberts, S. B. G., and Dunbar, R. I. M. (2011). The costs of family and friends: an 18-month longitudinal study of relationship maintenance and decay. *Evolution and Human Behavior* 32: 186-97.
- Roberts, S. B. G., and Dunbar, R. I. M. (2011). Communication in social networks: effects of kinship, network size and emotional closeness. *Personal Relationships* 18: 439-52.
- Roes, F. L., and Raymond, M. (2003). Belief in moralizing gods. *Evolution and Human Behavior* 24: 126-35.
- van Schaik, C. P., and Dunbar, R. I. M. (1991). The evolution of monogamy in large primates: a new hypothesis and some critical tests. *Behaviour* 115: 30-62.
- Sosis, R., and Alcorta, C. (2003). Signaling, solidarity, and the sacred: the evolution of religious behavior. *Evolutionary Anthropology* 12: 264-74.
- Stanford, D., and Bradley, B. (2002). Ocean trails and prairie paths? Thoughts about Clovis origins. In: N. G. Jablonski (ed.) *The First Americans: The Pleistocene Colonization of the New World*, pp. 255-71. San Francisco: California Academy of Sciences.
- Sutcliffe, A., Dunbar, R. I. M., Binder, J., and Arrow, H. (2012). Relationships and the social brain: integrating psychological and evolutionary perspectives. *British Journal of Psychology* 103: 149-68.
- Ulijaszek, S. J. (1991). Human dietary change. *Philosophical Transactions of the Royal Society, London* 334B: 271-9.
- Voland, E., and Engel, C. (1989). Women's reproduction and longevity in a premodern population (Ostfriesland, Germany, 18th century). In: A. E. Rasa, C. Vogel and E. Voland (eds.) *The Sociobiology of Sexual and Reproductive Strategies*, pp. 194-205. London: Chapman & Hall.
- Walker, R. S., and Bailey, D. H. (2013). Body counts in lowland South American violence. *Evolution and Human Behavior* 34: 29-34.
- Watts, D. P. (1989). Infanticide in mountain gorillas: new cases and a reconsideration of the evidence. *Ethology* 81: 1-18.
- Wilson, M., and Mesnick, S. L. (1997). An empirical test of the bodyguard hypothesis. In: P. A. Gowaty (ed.) *Feminism and Evolutionary Biology*. London: Chapman & Hall.