Sometimes there is difficulty telling the genuine artworks from the modern illustrations of older incidents due to the lack of references for most of them. For example, it would have been nice to know from where the "Aliens from Nice" discussion came since it related a rather remarkable story of an alien encounter in 1608. Carl Sagan once thought in his early discussions of extraterrestrial life how it seemed possible aliens might have visited the planet in the distant past, but that it was certainly not happening in the modern era. The Nice encounter might have caught his attention, assuming that it was based upon more than folklore.

The book remains a colorful introduction to the visual history of otherworldly aliens and the UFO experience, as told by a long time researcher into the phenomenon.

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ARTICLES OF INTEREST

"The Near-Death Experience: A Cerebellar Method to Protect Body and Soul – Lessons from the Iboga Healing Ceremony in Gabon" by Süster Strubelt and Uwe Maas, *Alternative Therapies in Health and Medicine, 14*(1), 2008, 30–34.

The authors of this article marshaled an impressive body of neurophysiological data and constructed a plausible hypothesis to explain Iboga rituals and near-death experiences. However, they did not establish that we know enough yet to answer their first question: "Are Iboga visions and near-death experiences based on a common neurological mechanism?"

The authors noted that the Gabonese Iboga ritual elicits experiences with many of the features and aftereffects of spontaneous near-death experiences. The Iboga and near-death experiences are not identical, however. For example, Iboga ritual participants maintain the ability to communicate verbally throughout their visions, whereas spontaneous near-death experiencers usually lose communication with the physical world around them; and the transformative effects of the Iboga ritual are dependent on weeks of continuous emotional processing by healers, whereas the effects of near-death experiences follow the experience itself. It is unclear whether these distinctions are merely a matter of focusing of attention or whether they reflect fundamental substantive differences between the two kinds of experience.

The authors noted that ischemia is thought to release potentially neurotoxic glutamine, leading to some unknown neuroprotective mechanism that through some unspecified pathways may produce near-death experiences. They further noted that ibogaine, through unknown mechanisms, may also induce glutamatergic excitotoxicity, and they hypothesized that the glutamatergic toxicity that may be induced by ibogaine provokes the same neuroprotective mechanisms that are presumed to occur in ischemia.

This is a promising hypothesis, but there remain gaps in the story. First, glutamine release has never been demonstrated in near-death experiences. Second, we have no idea how the putative but unidentified neuroprotective mechanism might produce near-death experiences. Others such as Karl Jansen have speculated that an endogenous ketamine-

like neurochemical may play a role, but no such chemical has yet been found. Third, it is unclear how a neuroprotective effect that can be observed for weeks following focal ischemia could account for an experience that lasts only seconds to minutes. And fourth, this hypothetical ischemic neuroprotective mechanism would not explain the majority of NDEs that do not involve ischemia, such as in falls or automobile accidents.

The authors cited in support of their hypothesis a recent study by Dennis Schutter et al purportedly inducing an out-of-body experience by transcranial stimulation of the cerebellum. In fact, during a relaxation period following the stimulation (but not during the stimulation itself) Schutter et al's subject reported a sensation as of "her body falling/ drifting side wards and even out of the chair." That is, relaxing after the electrical stimulation induced an illusory feeling of the body moving, but it did not produce a feeling of leaving the body. Thus this interesting kinesthetic illusion is not relevant to out-of-body or near-death experiences.

The Iboga ritual does appear to induce experiences with many features and aftereffects typical of spontaneous near-death experiences. Thus the neuropharmacology of ibogaine and related psychoactive alkaloids may provide valuable insights into the mechanisms of near-death experiences. But illusions of bodies falling out of a chair should not be mistaken for out-of-body experiences, and proposed links to speculative hypotheses and unidentified pathways should not be mistaken for evidence of common neurological mechanisms. The potential benefits of studies such as this are wide-ranging, and deserve thorough exploration, particularly the authors' call for attention to spiritual experience in the clinical use of ibogaine therapies for drug addiction, and for further research combining physiology and spirituality.

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"Kelp Highways" by Heather Pringle. 2008. *Discover* June:38–43.

In contrast to earlier scenarios of Ice Age hunters following big-game animals on foot across the then-dry Bering Strait into North America when sea levels were lower some 12,000 years ago, many archaeologists have recently come to favor an earlier initial human entry into the Western Hemisphere, via the Pacific littoral and employing boats. Science writer Pringle describes this developing theory and one of its researchers. Jon Erlandson of the University of Oregon speaks of a trail of rare but distinctive dart points with flaring barbs that dot the Pacific Rim from Japan to Chile. This may reflect an 18,000-15,000-years-ago coastwise movement, although most of the potential evidence now lies deep underwater owing to post-Pleistocene sea-level rise. Much of the route would have paralleled a familiar and biotically productive offshore ecosystem, the "forest" of kelp seaweed. Southern Chile's near-coast Monte Verde site dates to over 14,000 years ago and (as reported after Pringle's article appeared) has yielded 9 species of marine algae.