Solarizing the Moon

Essays in honour of Lionel Sims

Edited by

Fabio Silva and Liz Henty

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Introduction: Lionel's Legacy

Fabio Silva and Liz Henty

The study of prehistoric monuments has long been the domain of archaeologists who excavate, measure, date, record and interpret them. Archaeoastronomers, on the other hand, have provided a different picture based on their belief that the builders understood celestial movements and consequently enshrined astronomical alignments into their monuments. This picture was hotly contested by most archaeologists in the 1960s and 1970s and the two fields, archaeology and archaeoastronomy, largely went their separate ways in the 1980s (Henty 2020; Hutton 2013). One of the scholars who broke this stalemate was Lionel Sims who, as an anthropologist, had a wealth of ethnographic material to draw from, allowing him to re-envision archaeoastronomy from an interdisciplinary perspective.

Lionel Sims, Professor Emeritus of Anthropology at the University of East London, produced an influential body of work which has challenged both existing narratives about British prehistoric monuments and, equally importantly, the way archaeoastronomy has been done in the past. His work was not without controversy, but his unique approaches and thought-provoking conclusions have had an impact on the thinking of students and colleagues. To celebrate his achievements and legacy, this *festschrift* publishes contributions from colleagues that extend and contextualise his research and theoretical advancements. This introduction presents a summary of what we perceive to be Lionel's most enduring contributions to the field of archaeoastronomy, namely his concept of the solarisation of the Moon, his theoretical advancements and his commitment to education.

Solarization of the Moon

Our first meeting with Lionel was at the seventh annual Sophia Conference at Bath, 'Cosmologies', 6th – 7th June, 2009 at the Bath Royal Literary and Scientific Institute. As the programme advertised, presentations were centred around answering the question, 'how do we human beings relate to the cosmos?' (Campion 2009: 2). Given the wide nature of the question, subjects discussed included 'Calendars and Divination in the Dead Sea Scrolls', 'The Beltane Fire Festival', 'Cyberspace and the Sacred Sky' and 'Northern European Cosmologies of the Tree and the Well'. As part of this eclectic mix Lionel's talk was 'Stonehenge decoded: the conflation of winter solstice with the southern minor standstill moonsets'. You couldn't have heard a pin drop, partly because of the nature of the material which favoured a new interpretation of Britain's most iconic monument, suggesting that there was an emphasis on winter over summer, settings over risings and Dark Moon over Full Moon, and partly because he was such a charismatic speaker. The content of his talk was controversial for two reasons: firstly, it countered the 'official' version relating to summer solstice sunrise at Stonehenge – 'At Stonehenge on the summer solstice, the sun rises behind the Heel Stone in the north-east part of the horizon and its first rays shine into the heart of Stonehenge' (English Heritage, 2020), where the winter solstice takes second place. Secondly, few in the audience would have been aware of the significance of the Dark Moon in anthropology unless they were familiar

with the sex-strike theory of Chris Knight ([1991] 1995) that underpinned Lionel's model of Stonehenge.

> **Liz**: Shocked into silence we broke for lunch. The conference ended with a panel discussion hosted by the Sophia Centre's director of studies, Nicholas Campion, and other panel members including Patrick Curry, Ronald Hutton and Lionel Sims. This was my first academic conference and I certainly wasn't prepared for the combative nature of the panel discussion, nor the rudeness (in my mind) that was extended to Lionel. I was so shocked that I sought him out at the end of the day to apologise or at least extend my sympathies. He just laughed and said that the level of criticism directed at his ideas was normal. Of course, this was because he was ahead of the times and his work in archaeoastronomy had yet to be appreciated. We got talking and it turned out that we had both been at the London School of Economics around the same time. I had taken anthropology as part of my sociology degree and we laughed at some of the reading material we had shared, even remembering the quote from Wittfogel's *Oriental Despotism* (1957), 'absolute power corrupts absolutely'. A friendship was formed.

In his talk Lionel discussed what was to become the concept that he was most famous for, and that from which this volume takes its title, the '*solarization of the Moon*' (Sims 2006). In his paper on Stonehenge, where he first developed this idea, Lionel summarised it as the 'religious substitution to mimic and estrange Palaeolithic hunters' lunar motifs into an emerging Mesolithic and Neolithic solar cosmology' (Sims 2006: 204). Essentially Lionel saw Neolithisation not as a revolution, as per Gordon Childe (1936), but as a counter-revolution, that is a revolution that opposes or attempts to reverse the results of the original revolution – that which separated humans from their primate ancestors. His thesis was built on the anthropological work of Knight, Power and Watts (Knight [1991] 1995; Knight *et al.* 1995; Power 2009) who, through a combination of social anthropology, biological anthropology and archaeology, have suggested how and why human symbolic culture emerged, through female-led sex strike action. This revolution – *the* human revolution – would have given rise to a hunter-gatherer society whose economic and cultural activities were timed by the phases of the Moon which were symbolically related to other aspects of culture, such as Dark Moon being associated with blood and Full Moon with fire.

The sex-strike, or Female Cosmetics Coalition, model – as it came to be known – is paradoxically simple yet complex. It is simple in its conception, but complex in its derivation and the sheer amount of interdisciplinary evidence which it is built upon. Due to this complexity, it is difficult to argue for an interpretation of megalithic monumentality based around it, without having the necessary space to fully explain the nuances. We feel that many have misunderstood or dismissed Lionel's ideas because they failed to understand or engage with the anthropological minutiae which underpinned Lionel's thinking. As a way to remedy this, we have invited Chris Knight, Camilla Power and Ian Watts, the three anthropologists who fleshed out this theory, to contribute chapters detailing different aspects of the model and the

evidence in favour of it. These anthropological chapters, in Part I of this volume, *Anthropology and Human Origins*, not only illustrate the strong link between the celestial objects, especially the Moon, within different societies but also provide the necessary anthropological context to understand Lionel's archaeoastronomical work.

While these anthropologists focused on the question of human origins in the Palaeolithic period, Lionel was focused on the Neolithic. He posited that if some variation of the Female Cosmetics Coalition model was present in hunter-gatherer Mesolithic Britain, then the introduction of cattle-herding and horticulturalism in the Neolithic would have amounted to nothing short of a counter-revolution whereby such concepts as ownership (whether of land, animals or people) and patriarchy would have been introduced (Sims 2015). This ontological shift would have equally encompassed a cosmological shift, from an early emphasis on the Moon to the solar cults known to be a key feature of the religions of the Bronze and Iron Ages throughout Europe. From this perspective, Stonehenge and the megalithic monuments of western Europe, would be testament to the period of transition.

Such a transition would not have happened haphazardly, but would have followed the structural rules first observed by Lévi-Strauss in his intense studies of mythology (e.g. 1969, 1973, 1978, 1981). The core idea is that the original human state became a 'transformational template' which the powers that be, in this instance those of the Neolithic and Early Bronze Ages of southern Britain, abused and modified to suit their needs (Sims 2010a: 6-7). A proposed male-led cult had to reference the earlier matriarchal source of power – the Moon – by reversing and transferring its power to the new cosmic symbol of the patriarchy – the Sun. Monuments, such as Stonehenge, were devices built to either effect or mark that transformation and this is evidenced by their double alignments to both Sun and Moon. The transformational rules of Lévi-Strauss invariably involve what has been called a 'double twist' (Maranda 2001): they mirror and reverse the template they are based on – and it is exactly this combination of factors that Lionel observed within the alignments of Stonehenge. This transformation is done by, firstly, showing how the annual cycle of the Sun mirrors the monthly cycle of the Moon and, secondly, by reversing the cycle of lunar phases visible at these key moments of time. According to Lionel, this is only achievable on specific years when the Moon is said to be at a lunar standstill by looking at specific directions where the Dark Moon combines with winter solstice and the Full Moon with the summer solstice (see Sims 2016 for a lengthier discussion). By doing this, Lionel explained and considerably expanded the many examples of megalithic alignments to the lunar standstills that Thom (1971), and later Ruggles (1999), had identified. This emphasis on the Moon, in particular, has drawn attention from his peers, as can be seen in Part II of this volume, *Prehistory and Megalithic Monuments*, which comprises chapters by David Fisher, A. César González-García, John Grigsby, J. McKim Malville, Estelle Orrelle and Emília Pásztor.

Theoretical Contributions

Lionel's contributions have extended well beyond his interpretation of prehistoric monumentality in southern Britain, they have directly addressed the way archaeoastronomy

had been done in the past in order to provide new ways to approach it. Lionel's first printed forays into this revolved around his observation that 'European archaeoastronomy has settled into a narrow routine seemingly in an effort to gain wider acceptance' (Sims 2010b). This routine generally involved the application of statistical reasoning, as epitomised by the works of Ruggles (e.g. 1999) and Hoskin (2001), which could not be deployed for unique monuments such as Stonehenge, Avebury or Newgrange (Sims 2010a: 10). This, Lionel believed, was due to archaeology's disfavour with archaeoastronomy, which led archaeoastronomers to accumulate 'aggregated data sets' and apply statistical testing to reject the null hypothesis that prehistoric monuments were orientated at random. However, as he put it, 'A discipline that stands still waiting for others to accept it is a discipline in danger' (2010a: 11).

Lionel's critique was not so much an attack on the statistical method per se, but rather on two flaws which arose from it. Firstly was the fact that archaeoastronomers tended to stop their work at the level of identifying statistically significant celestial alignments, with 'very little development in the cultural interpretation of the alignments that have been found' (Sims 2010a: 11). An anthropologist by training, Lionel conceived archaeoastronomy as having the potential to bridge the four fields that comprise anthropology, namely archaeology, social anthropology, linguistics and biological anthropology (Sims 2010b). To achieve this, the archaeoastronomer must attempt to interpret celestial alignments, thereby not only relating them to social anthropology but making archaeoastronomy itself relevant for anthropologists. Secondly, Lionel critiqued the over-emphasis on statistics to the exclusion of other methods that can be used to interrogate individual monuments (Sims 2010b). On this note, he highlighted four methods, namely Monte Carlo modelling, landscape phenomenology, emergence through consideration of embodied experience and virtual 3D modelling. Together with the more traditional statistical approach, these five methods 'constitute a significant battery of techniques to test the null hypothesis for intentional alignments for *both* regional groups and individual monuments' (Sims 2010b). From these early reflections on the state of archaeoastronomy, Lionel developed and continued to evolve his own approaches to the study of, largely, the Stonehenge and Avebury complexes (see, more recently, Sims 2021). These contributions have been largely unrecognised, which has motivated us to highlight three theoretical trends that demonstrate Lionel's unconventional, but ahead of his time, stance.

Attention to Archaeological Detail and Context

Lionel always paid a degree of attention to the archaeological detail and context of the monument being studied that went well above the norm within archaeoastronomy. His works included detailed archaeological plans and delved deep into excavation details or the minutiae of the interpretive models of other scholars. The most illustrative examples of this include his work on the Avebury coves (Sims 2010a), on West Kennet Avenue (Sims 2010b) and on the Stonehenge palisades (Sims and Fisher 2020) where he systematically assembled the wider archaeological evidence for each of these architectural features before deploying them for interpretive purposes. Such attention to detail is not widespread within archaeoastronomy which still relies almost exclusively on orientation data.

Testing of Interpretive Models

A second constant in Lionel's works was his emphasis on the testing of interpretive models. In several works (Sims 2010a, 2016; Sims and Fisher 2020), Lionel painstakingly trawled through the literature and listed all interpretive models for a given monument, including their key predictions. He then listed features of the monuments in question which he used to put the models to the test by interrogating whether they are capable of explaining all features. For this task, the role played by 'evidence anomalous to theory' (2009a: 340) is key, and Lionel's eyes were second to none in spotting such anomalies – no doubt fuelled by the attention to detail and archaeological context just discussed. From this interrogation process, new interpretive models emerge, often combining elements of the previous models, which feature previously dismissed or ignored archaeoastronomical alignments and focus on the embodied experience of the monument. Lionel's approach was innovative not only within archaeoastronomy which, as mentioned above, lacks engagement with interpretation, but also within archaeology. Interpretive, hermeneutic or postprocessual models abound in archaeology, but the processual idea of formally testing them is not as ubiquitous (see Eve and Crema 2014 for a rare example).

Emphasis on Embodied Experience

Lionel's engagement with cultural interpretation and symbolic meaning emerges from the embodied experience of the monument, as reconstructed from his methodology of combining archaeoastronomy, landscape phenomenology and the testing of interpretive models. The actual lived experience of prehistoric people both determines the possibilities for alignments and limits the scope of their interpretation – facts that are hardly ever considered in archaeoastronomy. No doubt fuelled by phenomenology, Lionel always placed such embodied experiences above any potential geometrical or mathematical relationships which led to more vivid depictions and understandings of the experience of the alignments – as it did when he repeated North's (1996) observation that walking into Stonehenge from the Heel stone, the 'observer's rising eye would have counter-balanced the motion of the setting winter solstice sun to create the illusion of '"time" standing still' (Sims 2009b: 398). In all of his works, he made sure to consider the average height of the Neolithic person and its impact on eye height, and hence on the altitude of any observed celestial alignments (e.g. Sims 2015: 203). This approach often led him to realise why certain architectural choices were made by the prehistoric builders, as he did when he wrote:

> A route that loses height to then require immediately regaining it is not what we would expect of Mesolithic foragers, just as tourists today seem to agree by taking the modern shortcut! However, such a strategy is perfect for lowering the eye of the observer processing along the Avenue (Sims 2010b).

Fabio: I distinctly remember one of my first conversations with Lionel, at the SEAC 2009 meeting in Alexandria, Egypt. After a busy day of talks, a group of us ventured into the hotel bar to continue the discussions. Around the table was Nicholas Campion, Kim Malville, Lionel, his student John Macdonald and me. Somehow, the conversation moved to Avebury and Silbury Hill. Summarising the findings of a then recently published paper (Sims 2009b), Lionel challenged me to place myself in the shoes of a prehistoric visitor to Avebury. His descriptions were exciting and vivid, almost as if he had been there himself. He told me that I would have been able to see the Moon rise, transit the sky, and then set over Silbury Hill – whose glistening white chalk terrace was a symbolic representation of the Moon, as he had argued before. Lionel then said: 'The Moon has already set, yet you can still see it [referring to the chalk terrace]. Where are you then?'. I puzzled at this question which, at the time, made no sense to me. Lionel provided the answer, which came as an example of ontological tension: 'You are in the underworld!'. For a society whose Moon goes into the underworld when it sets, the answer would have been obvious. This revelation was foundational to my current reasoning that archaeoastronomy in particular, and archaeology more broadly, should be about thinking differently. The entire conversation was also representative of Lionel as a public speaker, with his passionate delivery that pulls the listener in to the puzzle he was trying to solve while, at the same time, forcing him or her to think like a prehistoric person.

Lionel may not have explicitly presented the above three points as paradigmatic or as exemplars to be followed. Nor did he feel the need to justify or otherwise demonstrate the validity of his approaches – rather they were presented as intuitive steps following a logical sequence. His critique of past and current approaches was always done through case studies rather than through extended theoretical exposition. From this perspective, Lionel was not a theorist, but he actively engaged with and developed theoretical points in archaeoastronomy. The present authors and volume editors, believe that, perhaps more than his contributions to the understanding of megalithic skyscapes in southern Britain, these largely unrecognised theoretical and methodological contributions, applicable as they are to any archaeoastronomy project anywhere in the world, are likely to be Lionel's most enduring legacy. This is reflected in Part III of this volume, *Theory*, in the chapters by Nicholas Campion, Liz Henty, Michael Rappenglück and Fabio Silva, all of which pick up and expand upon elements of theory in Lionel's body of work.

Commitment to Education

Lionel was an innovative educator. As former Head of Anthropology at the University of East London, he designed a course entitled 'Decoding Stonehenge' for his students to teach them archaeoastronomy. This ran from 1993 until 2011 as an optional choice on a BSc (Hons) anthropology degree programme. The course was, as its title suggests, a new examination of Britain's iconic monument, though it included Avebury and monuments at Bru na Boinne and Loughcrew in Ireland. Unlike Gerald Hawkins' (1965) work from which the course title

derived, Lionel's course did not focus solely on astronomical alignments but attempted to examine how archaeoastronomy could deal with cultural complexity. It was more focused on understanding the needs which drove a culture to enshrine alignments in their monuments rather than on the methods of finding alignments. Lionel approached the material from an interdisciplinary perspective, combining a number of methodologies and approaches, as a way of mining all avenues. This revolved around an anthropological critique of five disciplines; archaeoastronomy; archaeology; behavioural ecology (socio-biology); Indo-European poetics and cultural anthropology; key texts from these were part of the reading material. He drew on theories from those disciplines 'to model the likely scenarios for late Neolithic monument building cultures' and to argue for a new approach to prehistoric monuments which could shed light on similar sites of the period. As he explained to Liz in 2015, his practice 'included archaeoastronomy as part of the American definition of anthropology which integrates biological, social, cultural anthropology with archaeology, linguistics, myth and folk lore'. He was keen to describe his methodology as 'emergence - the product of integrating all of the extant methodologies' which came about as a result of his being 'struck by the lack of integration between anthropology and archaeology into the origins of social complexity'. He believed that one 'subdiscipline' in particular 'stood at the centre of this intersection yet itself was in disarray – archaeoastronomy' (Sims, 2013: 8). His integrated methodology approach required not just a new way of conducting field work, but also a new interpretive method (Sims 2013: 11). A further rationale for his point of view was that other disciplines which specialise in prehistory only have access to 'fragments' which reveal some aspects of the culture so that no one discipline 'possesses a rich enough set of data to independently interpret a prehistoric culture as a whole' (Sims, 2013, 22). Lionel continued to believe that by exploring single sites such as Stonehenge, which was the main focus of the course, new insights could be found. Overall, the content of not just his course but his work in general, enables the humanitarian, societal analysis missing from so much archaeoastronomical work.

In a small field like archaeoastronomy and cultural astronomy, there aren't many professional bodies that can steer the ship to a good port. One such organisation is the European Society for Astronomy in Culture (SEAC), where Lionel chaired the Educational Sub-Committee from 2015 to 2020. One of its key outputs during this time, and something Lionel strongly spearheaded, was the development of an educational strategy 'to assist in enhancing our discipline's significance, reputation and performance'. The proposals included: (a) the creation of a registry of cultural astronomy courses, (b) the development of benchmarking statements for the field, (c) the implementation of a SEAC 'kite mark' for archaeoastronomy courses validated by the Sub-Committee, (d) the development of innovative postgraduate curricula targeting archaeologists and anthropologists, and (e) an outreach programme. Although this document was a collective effort, it was symbolic of Lionel's commitment to education, outreach and cross-disciplinary fertilisation.

Generally, archaeoastronomy has been sidelined by most archaeologists so it was a characteristically brave move for Lionel to organise two sessions at the Theoretical Archaeology Group (TAG) conferences in 2005 and 2007 respectively. The first session in Sheffield in 2005 stemmed from his interest in using anthropology to explore the cultural relevance of the Sun,

Moon and stars. Consequently, the session was entitled 'The Anthropology and Archaeology of Moonshine' and aimed to provide an explanatory framework for the appearance of lunar motifs stretching back to the Palaeolithic (TAG 2005, 50-52). The individual presentations were focused either on the reassessment of Lévi Strauss or on discoveries of the importance of the Moon in indigenous cultures such as the Hazda in Tanzania and the Curripaco of the Northwest Amazon. In his talk Lionel put forward an early version of his theories about the solarisation of the Moon at Stonehenge, drawing together archaeological interpretations of burial practices and recent anthropological modelling of hunter-gather communities. His second session entitled, 'Reconstructing the underworld: the anthropology and archaeology of other-worlds' (TAG 2007, 35-37) came in 2007 at York and aimed to find out how concepts of the underworld could aid the interpretation of prehistoric cosmologies. Looking back at the abstracts for the session it is surprising that there was so much adverse criticism from the archaeologists present on the day, though the presentations on Silbury Hill and Avebury were certainly treading on their toes.

Lionel's Legacy

By 2012, which marked the first of a series of 'skyscape' sessions at TAG, times had changed and archaeologists were more in favour of welcoming skyscape archaeology (Henty 2020). Lionel was a key contributor to this changing of the tide, having participated in these TAG sessions as well as joining the editorial board of the *Journal of Skyscape Archaeology* which we co-founded in 2015. Moreover, he enabled us to think differently about monuments, to reconceptualise celestial bodies, not merely in connection to their rising and setting points on the horizon, but as part of an embodied skyscape that was lived by the prehistoric users of these monuments. Through his relentless research and vision for creating a better and interdisciplinary archaeoastronomy, he was a true inspiration to his students and colleagues. No more is this evident than in this volume, where in its three separate parts, colleagues have written chapters which provide new thought-provoking directions and underline the importance of interdisciplinarity. Sadly, Lionel died in October 2021 but before that we sent him this volume in pre-publication form. In what was to become his last email to us he wrote: 'I think it [the volume] will hopefully become a useful stimulus to our discipline'. These chapters show how Lionel's influence lives on in lively debate, whether this be about theory, anthropology or prehistoric monumentality.

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