Lead Book Review

A fistful of fossils: The rise and fall of the Orce Man and the politics of paleoanthropological science

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Conflict of interests

The author declares that he is the current director of the ICP and that he also performed his PhD dissertation at the IPS under Moyà-Solà's supervision when Agustí was the director. He has coauthored papers with both of them and was also acquainted with Gibert and some other researchers mentioned in the text. The readers should therefore take into account that the author's viewpoints might have been influenced by his position and his personal relationships.

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The Orce Man. Controversy, Media and Politics in Human Origins Research

By Miquel Carandell Baruzzi (2021). Brill, Leiden, 252 pp. €129, ISBN 978-90-04-43149-2 (hardback) and ISBN 978-90-04-43150-8 (ebook).

1. Introduction

The author of the newly released book “The Orce Man” (Carandell Baruzzi, 2021a) is a historian of science who has devoted a large portion of his career to study this affair (Carandell Baruzzi, 2010, 2013, 2015, 2016, 2021b). In the best tradition of Lewin's (1987) "Bones of Contention", but probably with greater historiographical rigor, the book is a thorough compendium of ‘everything you always wanted to know about the Orce Man but were afraid to ask’. When I joined the Institut de Paleontologia de Sabadell (IPS) in the late 1990s, gossip about the Orce Man affair was still ongoing and I considered myself relatively well informed about it firsthand. However, the book unfolds with plenty of quirks and twists of the drama that were previously unknown to me and which underscore its deep political connections. In this review, I will introduce the story based on the content of the book (Section 2) and provide my own assessment of its main insights and conclusions (Section 3). Finally, in Section 4 I will explore the serendipitous but far-reaching consequences that the Orce Man affair had on paleoprimatological research in Catalonia, which are only briefly mentioned in the book but which involve the same protagonists and would be worthy of a spin-off.

1.1. Main characters

The starring character of the book is Josep Gibert i Clols (1941–2007; see obituary in Gibert Beotas, 2008). Gibert was a PhD student of Miquel Crusafont-Pairó (for biographical details, see Truyols i Santonja, 1986; Crusafont i Sabater, 2019), considered the 'father' of the Catalan school of vertebrate paleontology and paleoprimatology (Alba, 2019). In 1969, Crusafont established the IPS as a paleontological research institute and museum in Sabadell (Catalonia, Spain), under the auspices of the Provincial Council of Barcelona (Crusafont Pairó, 1969; Truyols i Santonja, 1986; Crusafont i Sabater, 2019), currently known as the Diputació de Barcelona. Gibert's bachelor degree (1964) was in Geology, and in 1973 he obtained his Ph.D. with a dissertation on fossil insectivorans supervised by Crusafont and performed at the IPS. Gibert remained continued his research there while working as a high school teacher. In 1976, during an expedition to southern Spain in the framework of a research project directed by Crusafont, a team led by Gibert discovered the Early Pleistocene site of Venta Micena in Orce, Granada (Anonymous, 1976; Moyà-Solà et al., 1981; Agustí, 1983; Gibert et al., 1983). The team also included Jordi Agustí Ballester, an undergraduate and future Ph.D. student of Crusafont. In 1979, during a small expedition to Venta Micena, they were joined by Salvador Moyà-Solà, another soon-to-be paleontologist who had just graduated with a bachelor's thesis supervised by Crusafont.

1.2. Synopsis

The main events of the Orce Man affair are summarized in Table 1. The first paper on Venta Micena estimated an age of ~1.6 Ma for this site (Moyà-Solà et al., 1981). In

1982, during the first systematic excavations performed at Venta Micena, a ~8 cm-wide skullcap (VM-0) was found and subsequently published as the oldest human fossil in Eurasia (Gibert et al., 1983). This sensational discovery was widely disseminated and soon was dubbed the 'Orce Man'. But in 1984, after the preparation of the bone's inner side, the presence of an unusual crest suggested to some foreign researchers that the cranial fragment belonged to an equid. This was leaked to the press and the initial success was soon depicted as a total fiasco. The two younger researchers eventually retracted their original opinion (Agustí and Moyà-Solà, 1987), while Gibert initiated a longstanding crusade to vindicate his scientific credibility (Gibert, 2004). Subsequent discoveries in Orce (Toro-Moyano et al., 2013) and Atapuerca (Carbonell et al., 2008) validated human presence in Iberia well before 1 Ma, but the human status of VM-0, alternatively attributed to an equid (Moyà-Solà and Köhler, 1997) or a ruminant (Martínez-Navarro, 2002), has remained contentious ever since.

1.3. Aims and scope of the book

The Orce Man shows that the scientific controversy summarized above is but the tip of the iceberg of personal, political, and public interests that kept the controversy ongoing for more than two decades. The book differs from previous popularizing accounts written by some of the researchers involved (Martínez-Navarro, 1993; Campillo, 2002; Gibert, 2004) by explicitly avoiding taking sides, being targeted to an international audience, and aiming to go beyond storytelling. The book is well documented based on scientific and newspaper articles, interviews with the main researchers involved in the affair, and archival material. It may be read just for the sake of the story, which will probably appear entertaining to 'paleoaficionados' and

professional researchers alike. However, as its subtitle suggests (*Controversy, Media and Politics in Human Origins Research*), the book aims to delve into contextual aspects related to the politics of science—with 'politics' understood in the worst possible way, as the often devious tactics employed to gain power, resources, and/or credibility, both within and outside academia.

At first glance, the Orce Man affair might be seen as just a silly scientific disagreement among Spanish paleoanthropologists. However, the book dives much deeper, highlighting the international, mass media, and political ramifications, while arguing that the study of the affair helps to understand how paleoanthropological research proceeds and provides insight into scientific controversies generally. The main tenet of the book is thus that the Orce Man affair is not "a rarity in Spanish history of science […] unlikely to be repeated" (Carandell Baruzzi, 2021a: 2). Admittedly, the Orce Man affair cannot be understood without reference to its particular historical context (beginning at the post-Francoist Spain of the 1980s that had just transitioned into democracy), but the book provides sufficient background in this regard. I imagine the story may appear outlandish to those for whom the affair is unknown, yet the central theme will sound familiar: the complex power game played among researchers, the media, and politicians, and its consequences for scientific credibility. In this regard, the book constitutes an excellent scholarly contribution to the history of science.

1.4. Structure and content of the book

The book begins with a short 'rough guide to the Orce Man' that not only introduces the main researchers involved in the controversy but further refers, among

others, to the political parties mentioned in the book—an unequivocal declaration of intent by the author. The introduction outlines the historiographic methodology, provides other examples of scientific controversies, and contextualizes the Orce Man affair from historical, political, and scientific viewpoints. Emphasis is put on the 'hunt for the First European' that characterized the 1980s and 1990s, in the framework of the then ongoing debate between the young vs. old chronology for the earliest human settlement in Europe (Roebroeks and van Kolfschoten, 1994; Dennell and Roebroeks, 1996). By the 1980s, Middle Pleistocene human remains had been described from Atapuerca in Spain (Aguirre et al., 1976, 1987), but the oldest (Early Pleistocene) fossils would not be reported from there until the following decades (Carbonell et al., 1995, 2008).

The main body of the book is divided into seven chapters. The first four are arranged chronologically: 'discovery' (1976–1984), 'controversy' (1984–1987), 'conference' (1987–1996), and 'end' (1996–2007). The fifth chapter describes a similar controversy about the 'first' Americans, which despite its merit as a comparative case is too distracting. In contrast, the sixth chapter relating the last revival of the Orce controversy is very pertinent. Finally, the last chapter sets out the main conclusions of the book. It is followed by three short annexes on the anatomy of VM-0, an analysis of news published between 1983 and 1999, the whereabouts of the fossil during 1982–1984, and fthe long list of references.

2. The rise and fall of the Orce Man

2.1. How VM-0 became the Orce Man

The bone of contention was found in the summer of 1982 by two students. According to Gibert (2004), Moyà-Solà immediately identified it as human, whereas Agustí (1983) reported no 'eureka' moment. The initial preparation of the fossil was done by Moyà-Solà in December 1982. Neither Gibert (insectivorans), nor Agustí (rodents), nor Moyà-Solà (artiodactyls) had yet any specialist knowledge on primates, although Agustí and Moyà-Solà were already involved in the hotly-debated hunt for the 'First European' (e.g., Carbonell et al., 1981). The trio concluded that VM-0 belonged to *Homo* sp. and thus represented the oldest human fossil from Eurasia. Encouraged by other researchers' opinions, they contacted the Diputació de Barcelona, who took control of the dissemination and political negotiations. They published the find (Gibert et al., 1983) in May 1983, and in June the news had spread even before a press conference with politicians was held in Granada. The nickname 'Orce Man' was soon coined by the press, a small museum was inaugurated in Orce, the Diputació de Barcelona agreed to support and promote the IPS, and the renowned French prehistorian Henry de Lumley proposed to Crusafont that they jointly publish the fossil. Henry de Lumley and his wife, the paleoanthropologist Marie-Antoniette de Lumley, visited the Venta Micena excavations in August 1983 (Fig. 1) and confirmed VM-0 was human. That very same day, Crusafont died. The trio continued disseminating their claims (e.g., Agustí, 1983; Agustí et al., 1983a, 1983b), the IPS budget was quadrupled, the trio obtained permanent positions there in January 1984, and Gibert was appointed director. A popularizing book and a big international conference were planned for the near future.

2.2. From man to donkey: The demise of the Orce Man

The preparation of the inner side of VM-0, completed in April 1984, revealed an unusual crest that stirred some doubts. After several trips to France, the de Lumleys concluded that the fragment belonged to a young ass. They urged the trio to retract their former opinion that it was human, but Gibert refused. The planned conference was canceled and the de Lumleys leaked the bombshell to the press. In the blink of an eye, the Orce Man turned into a public scandal that shook Spanish society. Journalists used the 'Orce Donkey' to mock politicians, but Gibert took the lead in defending the Orce Man. After the 1984 field campaign, he put in place a research agenda based on comparative and molecular analyses, as well as additional fieldwork, while pointing to the discovery of a a human phalanx from Cueva Victoria (Pons Moyà, 1985; Gibert Clols and Pons Moyà, 1985; Gibert et al., 1985)—later reassigned to a gelada by Martínez-Navarro et al. (2005)—in support of an old chronology for the First European (Gibert Clols, 1985). Everything deteriorated when three university full professors and former students of Crusafont sent an open letter to the media in February 1985 criticizing Gibert's methods as unscientific (de Renzi et al., 1985). Andalusian researchers ended their collaboration after the 1985 field campaign and some collaborators of Gibert were evicted from Cueva Victoria owing to the lack of permits. The bad press seriously damaged Gibert's credibility in the eyes of politicians. Gibert was dismissed as IPS director and replaced by Agustí. Fieldwork permits for 1986 were denied to Gibert, who temporarily regained some credibility after two academic meetings held in Southampton and Sabadell, leading to further permits for 1987. However, with the Diputació's consent, Agustí and Moyà-Solà (1987) made a public retraction in an attempt to distance themselves once and for all from the controversy.

2.3. The Orce conference

During the late 1980s and 1990s, with the help of a loyal team of collaborators, Gibert struck back with a panoply of studies based on anatomy (Gibert et al., 1989), fractal analysis of cranial sutures (Gibert and Palmqvist, 1995), immunological assays (Borja et al., 1997), stone tools (Gibert et al., 1992, 1998), and additional putative human remains (Gibert et al., 1992, 1999). One of the most fervent followers of Gibert was Bienvenido Martínez-Navarro, who became the director of the Orce Museum after obtaining his Ph.D. in 1991. During the 1990s, the debate about the oldest human occupation of Europe was still lively, fueled by the discoveries at Atapuerca (Carbonell et al., 1995) and Dmanisi (Gabunia and Vekua, 1995). After some fieldwork permit denials, changes in the political arena allowed Gibert to organize an international conference in 1995 at Orce, which had ca. 200 in attendance, including renowned paleoanthropologists from Spain (e.g., Emiliano Aguirre and José M. Bermúdez de Castro) and elsewhere (e.g., Ian Tattersall and Phillip Tobias). It highlighted the importance of the Orce sites and recruited some distinguished adherents to Gibert's cause (e.g., Tobias, 1998). However, as explained in the book, Gibert soon experienced a backlash when the latent rivalry between Orce and Atapuerca regarding the oldest human remains from Western Europe was more crudely expressed in the press (see also Hochadel, 2013).

2.4. End of the controversy?

Interest from the media progressively diminished after the conference, but Martínez-Navarro and Palmqvist, who had privately expressed some doubts to Gibert, ultimately changed sides and created an opposing team. Martínez-Navarro was

192 dismissed as director of the Orce Museum, while Palmqvist even accused Gibert of
193 fraud and corrected his fractal analyses (Palmqvist, 1997) based on a new drawing
194 provided by Moyà-Solà. The latter, in turn, restated that VM-0 was "just a common
195 and ordinary horse" (Moyà-Solà and Köhler, 1997: 96). Andalusian authorities
196 requested that Gibert return the material to Orce—which he did with some
197 reluctance—and since 1999 Gibert was never again allowed to direct fieldwork at
198 Venta Micena. He directed some campaigns at other Orce sites within the framework
199 of a larger project including Martínez-Navarro and Agustí. However, Gibert was finally
200 accused of excavating without proper permits and excluded from fieldwork altogether,
201 while Palmqvist and Martínez-Navarro obtained approval for a long-term project of
202 their own. Martínez-Navarro (2002) reinterpreted VM-0 as a ruminant and Gibert
203 devoted greater efforts to Cueva Victoria. Despite receiving some political and
204 scientific (e.g., Campillo et al., 2006) support, during the 2000s, the Atapuerca
205 fieldwork directors more forcefully rejected the human status of the Orce remains in
206 the press. The controversy faded away after Gibert's death in 2007.
207
208 *2.5. The 'Orce Boy' in the Internet age*
209 A human deciduous premolar found in 2002 at the Orce site of Barranco León was
210 subsequently described in the *Journal of Human Evolution* (Toro-Moyano et al., 2013)
211 by a team of authors including Martínez-Navarro, Agustí, Palmqvist, and even
212 Bermúdez de Castro (one of the team leaders at Atapuerca). The find, nicknamed the
213 'Orce Boy,' was announced as the oldest human fossil from Europe in a press
214 conference. However, controversy soon arose because the paper omitted any
215 reference to Gibert's work in Orce. Following several complaints to the journal editor,

the paper, which was published online, was temporarily withdrawn and subsequently replaced by a modified version that included references to Gibert's work. The book highlights that, despite similarities with the previous controversy, Internet blogs and social networks allowed researchers and the general public to more directly engage in public debates about the ‘Orce Boy.’

3. Lessons from the Orce Man affair

So, was it human or not? According to the book, it does not really matter, at least from the viewpoint of the history of science. The most controversial scientific issue of the Orce Man affair was the taxonomic allocation of VM-0. However, the disputes were mostly motivated by "a fight for a scientific or even a public 'niche'" and “hid issues like personal or political disagreements, economical interests and efforts to gain public prominence" (Carandell Baruzzi, 2021a: 184). The book convincingly argues that the affair reveals the complex power game played by researchers, politicians, journalists, and society in general amid paleoanthropologists’ struggle for research funds, fieldwork permits, and access to fossils. This gruesome panorama of science ‘red in tooth and claw’ does not always (or even often) apply, and the Orce Man affair is an extreme example. However, it should come as no surprise to professional paleoanthropologists and, by making it so explicit, the book serves as a kind of warning not to fall into the same trap as Gibert.

In retrospect, early claims of human presence at Venta Micena based on a fragmentary and partly prepared cranial fragment were precipitate to say the least. However, from a political standpoint, they constituted a great move that reaped substantial benefits from the IPS researchers’ perspective. In contrast, Gibert’s ensuing

insistence on the human status of VM-0 was ultimately revealed as a poor strategic decision. To what extent Gibert's stubbornness was motivated by his strong scientific convictions, his will to reinstate his credibility, or a personal grudge following his dismissal as IPS director in 1985 is rather irrelevant. I have no doubt that Gibert was not bluffing: he was convinced of human presence at Orce. Indeed, the subsequent discovery of archeological and undisputed human remains (the Orce Boy) vindicated his views and undoubtedly contributed (even if in a rather tortuous way) to the advance of paleoanthropological knowledge. So why is the Orce Man affair perceived as a fiasco? The book contrasts the Orce Man story with the great success of Atapuerca but it tends to downplay the sheer weight of scientific evidence. Had Gibert also found abundant and unambiguous fossil human remains, the controversy would likely never have escalated in the way it did. Given the lack of undisputed evidence to support his claims, Gibert often counter-attacked his critics by alluding to the paradigm-shifting nature of his interpretations. Admittedly, he happened to be on the winning side of the debate about the old vs. young chronology of human settlement in Europe. However, the paradigm shift was not because of the Orce finds.

By stressing the political factors involved, the book might give the false impression that the normal functioning of paleoanthropological research is less rigorous than in other scientific disciplines. However, the book convincingly shows that fossil evidence was not the only, or even the most important, factor at play in the Orce Man controversy. As noted by Groves (1988: 271), "the line between deliberate fraudulence and subconscious exercises in position-pushing is a very thin one", and being anywhere near that line exposes an individual's scientific credibility to attack. The book argues that a researcher's credibility—perhaps their most important asset, on which funding,

career progression, and access to fossils and fieldwork permits depend—does not merely hinge on being right or wrong, but is also contingent upon the aforementioned power game and thus deeply influenced by political interests and public opinion through the press. By using a controversial fossil to support his claims, in the framework of an ongoing public debate with many intermingled interests (from different research teams, the mass media, and various local administrations and political parties) at stake, Gibert was brave enough to risk his reputation. The book shows how, at some point, the focus of the debate shifted from the scientific evidence to Gibert's scientific credibility, thereby making him an easy target for his critics and rivals. Due to the public nature of the conflict, the Orce Man became a fertile soil for supposedly scientific debates that were nothing but a fight for power in which researchers, politicians, and journalists were all engaged. As a result, Gibert's initial success in terms of impact and visibility soon turned into failure in terms of funding and fieldwork permits.

Yet the book goes one step beyond. To understand the take-home message of the book it is essential to realize that the author contends that Atapuerca and Orce are just different sides of the same coin: "When a discovery is made, popularization and supposed exaggeration are crucial in order to construct a whole machinery and narrative around the discovery to ensure popular support and funding. From this point of view, the beginning of a supposed failure story such as the Orce Man is no different in its core from a success story like Atapuerca" (Carandell Baruzzi, 2021a: 192). In other words, the analysis of scientific controversies such as the Orce Man affair are useful precisely because they highlight the political, media, and personal interests that are also at play, albeit often in a more subtle manner, in the absence of public

288 controversy. All researchers have to play this power game to some extent, and hence
289 we are all prone to unconsciously overinterpret our results in favor of our preferred
290 hypotheses and exaggerate our discoveries in front of the press. While it is “imperative
291 to stop assigning a starring role to each new fossil discovery” (Almécija et al., 2021:
292 857), the truth is that fossils have become a form of currency in paleoanthropology. So
293 researchers are emboldened by stakeholders (from funding agencies to journals,
294 institutions, the media, and even politicians) to exaggerate the importance of their
295 fossil finds, not only because it has become acceptable to do so, but especially because
296 such behavior seems to be, at least in the short term, highly rewarded. In this regard,
297 the book should probably serve as a warning not to push the power game of science to
298 its limits (see below).
299 One might say that Gibert chose to bet on the power game of science and that—
300 despite his charisma and proficiency in the political arena and the media—his
301 credibility was seriously damaged along the way. In part, this happened because he
302 was not lucky with the fossils, but to a larger extent because his cards (the Orce Man)
303 were not good enough in the first place. As a result, Gibert was ultimately
304 overpowered by competing research teams that acted on their own behalf (to control
305 the Orce sites and fossils) within a very politicized environment. In my opinion, the
306 main lesson to extract from the Orce Man affair is that scientists should never go all-in
307 when making bold and potentially controversial claims in public unless based on a
308 winning hand of solid evidence—namely, fossils of incontrovertible importance even if
309 their interpretation may be disputed. This is crucial in paleoanthropology if only
310 because it is one of the few disciplines without industrial or medical applicability that
311 attracts a lot of public attention. Just imagine how ugly this power game would look if

312 huge economical profits were at stake, as is the case in biomedical research. Based on
313 the Orce Boy issue, the book further argues that the Internet has changed to some
314 extent the rules of this complex interplay between scientists and stakeholders.
315 However, apart from the increased democratization of science, the Internet also has
316 the potential to make matters worse by amplifying the toxic power game that the Orce
317 Man affair so clearly exemplifies.
318
319 **4. Epilogue**
320 The book explains that the initial success of the Orce Man secured the continuation
321 of the IPS after Crusafont's death and cursorily relates that Miocene ape discoveries
322 throughout the 1990s and 2000s "did not receive as much media attention as the Orce
323 Man" even if they "certainly helped to reinforce the *Institut*'s position in the last
324 twenty years" (Carandell Baruzzi, 2021a: 191). As I explain below, this is an
325 oversimplification that obscures yet another power game that took place at the IPS
326 and was deeply influenced by the Orce Man affair, showing how these games can
327 proceed in the absence of public controversy.
328 Before the systematic excavations of Venta Micena, but in the framework of the
329 same research project led by Crusafont, in May 1981 Gibert, Moyà-Solà and Agustí
330 resumed excavations at the Miocene ape-bearing site of Can Llobateres, where they
331 recoved twelve hominoid teeth. Crusafont was already very ill and asked his
332 collaborator and former student Juana María Golpe-Posse to finish the study of the
333 Vallès-Penedès hominoids on her own. However, sometime in the early 1980s
334 Crusafont also gave permission to David R. Begun (then a Ph.D. student) to study all
335 the hominoid remains (including those excavated in 1981). Golpe-Posse did not publish

her study until the next decade (Golpe Posse, 1993). In the meantime, Moyà-Solà decided to devote himself to fossil primates and reached an agreement with Begun to reopen excavations at Can Llobateres and jointly describe the teeth found in 1981. Owing to the Orce Man dispute with Moyà-Solà, Gibert was left out of the paper (Begun et al., 1990) and did not participate in the 1990s excavations that led to the discovery of a partial skeleton of *Hispanopithecus* (Moyà-Solà and Köhler, 1993, 1996). Gibert did not give up on the apes and supervised a Ph.D. dissertation on the Vallès-Penedès hominoids performed by his student Francec Ribot Trafí, thus aggravating the tensions with Moyà-Solà. However, once the dissertation's main conclusions were published (Ribot et al., 1996), Gibert remained focused on the Orce Man affair and did not pursue further the study of hominoids. In 1996, I joined the IPS as a student of Moyà-Solà, whose collaboration with Begun had already ended abruptly in 1993. The latter subsequently pursued a successful career focused on Miocene apes, but his relationship with Moyà-Solà was not restored until 2011, eventually leading to some recent joint publications.

After a progressive deterioration of the relationships between Moyà-Solà and Agustí, the stagnation of the IPS in the early 2000s led Moyà-Solà to complain to the Diputació, and tensions exploded after the discovery of the *Pierolapithecus* skeleton at Abocador de Can Mata in late 2002. According to *The Orce Man*, the description of *Pierolapithecus* (Moyà-Solà et al., 2004) helped to strengthen the IPS despite attracting much less attention from the media than the Orce Man—although, in fact, *Pierolapithecus* achieved a greater international impact. Parallels with the the Orce Man affair include leaking the discovery to the press in 2003, and the announcement of its description in a press conference co-organized by the Diputació de Barcelona.

Even the fossil was nicknamed by the press. If attention from the media soon vanished it was because there was no controversy to sustain it, except for minor academic disagreements (Begun and Ward, 2005; Moyà-Solà et al., 2005). Yet the consequences of the publicity were far-reaching (Alba, 2019). To make a long story short, in 2005, when the IPS ran the risk of becoming a local museum devoid of research, the Catalan government commissioned Moyà-Solà to design a new paleontological research institute. Agustí left to join another research center and the Institut Català de Paleontologia Miquel Crusafont (ICP) was established in 2006 in the framework of the CERCA system (Research Centers of Catalonia) under the auspices of the Catalan government and the Universitat Autònoma de Barcelona (UAB). Later, the Diputació transferred the former IPS and part of its personnel to the Catalan government and both institutions were merged into the current ICP. Concomitantly, the ICP budget progressively increased (until the harsh economic crisis of a decade ago), and funds were provided to support a new building within the UAB campus. All this gave Moyà-Solà the opportunity to consolidate his research group on fossil primates, and allowed me to eventually establish a group of my own.

The positive consequences for the consolidation of the IPS immediately after Crusafont's death and the Orce Man's initial success were intended by its codiscoverers, but the long-term consequences for paleoprimatological research in Catalonia could not have been predicted at the time. Had it not been for the Orce Man affair, it is highly unlikely that either Moyà-Solà or even Gibert would have been hired by the IPS after Crusafont's death. In which case, Moyà-Solà would never have devoted himself to the study of fossil primates and the Miocene ape remains excavated by Crusafont would likely have been published by Begun alone; excavations at Can

Llobateres would not have been resumed and no one would have enforced paleontological surveillance at the Can Mata dump, without which the skeletons of *Hispanopithecus* and *Pierolapithecus* would never have been found; the IPS would probably have become just a small local museum devoid of research; and most importantly, I would have not devoted myself to fossil primates and you would not be reading this book review!

So, who cares if the Orce Man was human… From the viewpoint of paleoprimatology writ large, it was worth all the fuss.

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Figure caption

Figure 1. Josep Gibert, Jordi Agustí, and Salvador Moyà-Solà at Orce in August 1983, during the visit of the de Lumleys: a) General view of the outcrops; b) from left to right, J. Gibert, Henry de Lumley, J. Agustí, and S. Moyà-Solà; c) S. Moyà-Solà excavating; d) from left to right, H. and Marie-Antoinette de Lumley, J. Agustí, and J. Gibert; e) from left to right, J. Gibert,J. Agustí, H. de Lumley, and S. Moyà-Solà. Photographs kindly provided by S. Moyà-Solà.


a


b


c


d


e

Table 1

Chronological summary of the main events involved in the Orce Man affair.

Year	Description of the main events
1976	The Early Pleistocene site of Venta Micena is discovered by a team from the IPS led by Gibert
1982	The first systematic excavation at Venta Micena lead to the find of a skullcap fragment (VM-0) interpreted as human
1983	VM-0 is described by Gibert, Agustí, and Moyà-Solà as the oldest remain of *Homo* sp. from Eurasia; the discovery is widely publicized as the Orce Man in the media; Crusafont dies while the de Lumleys, who confirm the human status of VM-0, are visiting Venta Micena
1984	Gibert, Agustí, and Moyà-Solà get permanent positions at the IPS and Gibert is appointed director; the preparation of VM-0 reveals an internal crest that supports its alternative interpretation as an equid; Gibert disagrees and the de Lumleys leak this information to the press; the public controversy begins
1985	Three university full professors publicly criticize the methods of Gibert and colleagues as unscientific; Gibert is replaced by Agustí as IPS director and starts a personal crusade to vindicate the human status of VM-0 and Early Pleistocene human presence at Orce

1987	Agustí and Moyà-Solà retract their former views publicly and in print
1995	Gibert organizes an international conference at Orce to convince other researchers about the importance of the Orce sites
1996–1997	Martínez-Navarro and Palmqvist, former collaborators of Gibert, turn against the latter; Martínez-Navarro is dismissed as director of the Orce Museum; Palmqvist and Moyà-Solà publish respective articles supporting that VM-0 is not human
2007	Gibert dies and the controversy starts to progressively fade out
2013	The publication by Gibert's former collaborators of a human tooth from the Orce site of Barranco León (the 'Orce Boy') revives the controversy because Gibert's work is initially ignored in the paper

Abbreviation: IPS = Institut de Paleontologia de Sabadell.