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# The Underlying Emotional Background of Quaternary Palaeontology: Nostalgia and *Ubi Sunt* in a Postdictive Science

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**Abstract**. *This short essay aims to provide insight into the emotional background underlying Quaternary palaeontology and encourage scholars to thoroughly discuss the psychological determining factors behind its practice. The nostalgia for past times and the feeling of loss of a world that will never return are the emotional landmark of Quaternary palaeontology. Due to its taste for perished things and nostalgic turn into the past, Quaternary palaeontology participates in the bias of the pagan version of the* Ubi sunt *elegiac motif. While this work specifically concerns Quaternary palaeontology, it can probably serve as a guide to reveal the perceptions and motivations behind other sciences.*

**Rezumat.** *Acest scurt material își propune să ofere o perspectivă asupra fundalului emoțional care caracterizează paleontologia cuaternară și să încurajeze cercetătorii să abordeze în detaliu factorii psihologici determinanți asociați metodelor sale. Nostalgia pentru vremurile trecute și sentimentul pierderii unei lumi care nu se va mai întoarce niciodată reprezintă reperul emoțional al paleontologiei cuaternare. Datorită înclinației său pentru lucrurile dispărute și apelului său la nostalgia trecutului, paleontologia cuaternară contribuie la preferința pentru versiunea păgână a motivului elegiac* Ubi sunt*. Deși această lucrare se referă îndeosebi la paleontologia cuaternară, ea poate servi probabil ca model pentru dezvăluirea percepțiilor și motivațiilor prezente și în alte domenii științifice.*

**Keywords**: Psychology of science; sociology of science; history and philosophy of science; historical biology; fossil record; Pleistocene; Holocene.

> *"Nothing seems to us changed. Out of the unreal shadows of the night comes back the real life that we had known. We have to resume it where we had left off, and there steals over us a terrible sense of the necessity for the continuance of energy in the same wearisome round of stereotyped habits, or a wild longing, it may be, that our eyelids might open some morning upon a world that had been refashioned anew*

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> *in the darkness for our pleasure, a world in which things would have fresh shapes and colours, and be changed, or have other secrets, a world in which the past would have little or no place, or survive, at any rate, in no conscious form of obligation or regret, the remembrance even of joy having its bitterness and the memories of pleasure their pain.*"
>
> — Oscar Wilde (*The Picture of Dorian Gray*, Lippincott's Monthly Magazine, July 1890)

## Introduction

The sciences can be more or less strictly divided into nomothetic and idiographic[2]. These two terms were coined at the end of the 19th century by Windelband[3]. While nomothetic sciences (whose accompanying adjective derives from Greek νόμος, *nomos*, law; θέσις, *thesis*, a proposition) seek ahistorical, general laws, idiographic sciences (the accompanying adjective coming from Greek ἴδιος, *idios*, one's own; γράφος, *graphos*, a writing) focus on historical, particular events. As a result, nomothetic sciences (physics, chemistry, molecular biology, etc.) are predictive, whereas idiographic sciences (astronomy, historical geology, prehistory, etc.) are postdictive. Although palaeontology can be considered an idiographic science rooted in taxonomic nomenclature and description[4], different positions regarding its real (idiographic or nomothetic) epistemic status can be found in the literature[5]. Beyond this dichotomy, according to Salvatore & Valsiner[6] "*all science is idiographic* as it strives towards generalization about its phenomena through time — yet the *outcomes* of such efforts can become nomothetic in the sense of generalization based on evidence that 'once was' and 'another time was as well'". Because of their historical nature, postdictive sciences tend to accumulate evidence in support of a hypothesis, rather than trying to disprove hypotheses. This does not imply that historical sciences are inferior methodologically to the experimental ones[7]. In-depth discussions on epistemic issues such as overdetermination *vs.* underdetermination in the historical sciences are available elsewhere[8].

[2] E.g. NAGEL 1952; GHISELIN 1997, 297–299, 308; KLUGE 2003; TURNER 2014.

[3] WINDELBAND 1894.

[4] GRANTHAM 2009; HUSS 2009.

[5] MORTHEKAI 2019, and references therein.

[6] SALVATORE & VALSINER 2010.

[7] MOHARIR 1993; CLELAND 2001.

[8] E.g. TURNER 2005; TUCKER 2011.

With regard to the temporality in sciences, an assessment of their different approaches easily allows one to conclude that, in fact, there is indeed no science that looks at the present, a point of view that was already insinuated at the beginnings of the 20th century by Poincaré[9]. Any scientific approach looks either to the future or to the past. To 'predict' something implies anticipating the future, because only that which has not yet happened can be predicted. Conversely, to 'explain' or 'describe' something implies going back to the past, because only what has already happened can be explained and only what has already been can be described.

According to Ebbinghausen & Korn[10], the scientific reasoning of palaeontology encompasses the following steps: (1) observation and/or description and/or measurement; (2) classification; (3) establishment of laws, rules and interpretations; and (4) establishment of principles. However, palaeontology attempts to reconstruct a type of event that is not recurrent but unrepeatable due to entropy, evolution, and ultimately the laws of thermodynamics of irreversible processes[11].

From the perspective of the history of palaeontology, it can be mentioned that Georges Cuvier treated the fossil record as representations of ancient coins or monuments of remote time that needed to be decrypted[12]. The focus on the fossil record is possibly the key difference between neontology and palaeontology[13]. In turn, the framework of biological evolution is supported by two pillars. While neontology can explain the mechanisms of evolution, palaeontology provides the facts of evolution. The mechanisms are an ahistorical continuum (scientific laws), whereas the facts are historical discrete items (the fossil record). As such, the facts of evolution are perished things from the deep past that mark a given moment in the unremitting history of Earth and life.

Quaternary palaeontology is a peculiar field within palaeontological science because it appeals to the nature of ourselves as it is associated with the emergence, spread and evolution of the genus *Homo*. It is also noteworthy because it encompasses not only the Pleistocene megafaunal extinction event[14], but also striking examples of Holocene insular extinctions such as those of the last, Wrangel woolly mammoths[15], the West Indies sloths[16],

[9] POINCARÉ 1918 (1905), 254.

[10] EBBIGHAUSEN & KORN 2013.

[11] E.g. PRIGOGINE & WIAME 1946, and PRIGOGINE & NICOLIS 1971, on the connection between life and thermodynamics of irreversible processes; MICHAELIAN 2011, and references therein, on the connection between the origin and evolution of life and thermodynamic dissipation.

[12] TAMBORINI 2017, and references therein.

[13] CURRIE 2019.

[14] E.g. KOCH & BARNOSKY 2006; ELIAS & SCHREVE 2013.

[15] VARTANYAN, GARUTT & SHER 1993.

[16] MACPHEE, ITURRALDE-VINENT & JIMÉNEZ VÁZQUEZ 2007.

the Madagascar elephant birds[17], and the New Zealand moas[18]. Having these characteristics in mind, the aim of this short essay is to provide insight into the emotional background underlying Quaternary palaeontology and encourage scholars to thoroughly discuss the psychological determining factors behind its practice.

## Quaternary palaeontology and the nostalgia for perished things

Nostalgia (from Greek νόστος, *nostos*, returning home; ἄλγος, *algos*, pain) can be defined as "a manifestation of the suffering generated by loss"[19]. This emotion represents the attempt to force two images (home and abroad, past and present, dream and everyday life) into a single one[20]. The neurobiological bases and psychological implications of nostalgia have been treated extensively elsewhere[21]. Based on a previous essay by Foucault, Bann[22] suggested that the discipline of history can be considered the result of a feeling of loss. By the same token, the nostalgia for lost worlds in the context of palaeontology has been slightly mentioned before by Mayor[23].

In postdictive sciences as a whole, there is also an evident nostalgic feeling of loss. They revolve around decay, perished things, around 'that which was but that will not be again'. The idea of perished things and decay is, in some ways, comparable to that of ruins and ruining. According to Hetzler[24], a 'ruin' is the disjunctive product of the intrusion of nature upon the human-made without loss of the unity produced by humans, and 'ruining' — started by either human or natural causes — is the maturation process done by nature in ruin time. In line with Ginsberg[25], "[n]ostalgia is a taste for ruins. It takes its reflective pleasure in the recovery of fragments from the past for which significant continuity to the present is lacking. The past for which we are nostalgic has no place in the present. The objects of our nostalgia are anachronistic and incongruous. (...) The nostalgic is a sentiment of saving". By his part, Currie[26] has asserted that "[o]ur primary window into the past is through traces:

[17] HANSFORD *et al.* 2018.

[18] HOLDAWAY & JACOMB 2000.

[19] ASLANOV 2009.

[20] BOYM 2001, xiii–xiv.

[21] E.g. SEDIKIDES *et al.* 2008; SPEER, BHANJI & DELGADO 2014; OBA *et al.* 2016; SEDIKIDES & WILDSCHUT 2016; 2018; KIKUCHI & NORIUCHI 2017.

[22] FOUCAULT 1966; BANN 1995, 10.

[23] MAYOR 2000, 246–248.

[24] HETZLER 1988.

[25] GINSBERG 2004, 362–363.

[26] CURRIE 2018, 63.

the rock, bone, and ruin that remain after time's destructive work. This destruction is lamentable, but even these fragments reveal worlds that are both alien and disquietingly familiar (...)".

In Romanticism — which represented a strong empathy with nature[27] —, the ruined site was a representation of the lost self in the lost past[28]. Furthermore, it has been suggested the existence of romanticist parallels and analogies between the (natural) fossil and the (cultural) totem, in the measure that one can do the function of the other[29].

It is worth pointing out that the thought of perishing and decaying would link with the Hispanic Baroque worldview. This worldview was constructed upon the premises of 'the wheel of fortune': the impossibility of permanence, of unstoppable growth, and of the final abandonment of the hope that something new might interrupt the chain of destruction[30].

A modern issue associated with Quaternary palaeontology is the rewilding and restoration of ecological proxies of Pleistocene environments[31]. A connection between this subject and nostalgia has been suggested by Higgs[32], as follows: "[w]e have affection for natural places and things, for the noncontrived flow of existence. Thus, nostalgia can have an emotional appeal, but also an ecological basis". In a similar sense, in the opinion of Donlan *et al.*[33] "humans have emotional relationships with large vertebrates that reflect our own Pleistocene heritage".

## Quaternary palaeontology and the *Ubi sunt* elegiac motif

Due to its taste for perished things and nostalgic turn to the past, Quaternary palaeontology participates in the bias of the *Ubi sunt* elegiac motif. These Latin words are short for the rhetorical question *Ubi sunt qui ante nos fuerunt?* ('where are those who were before us?'), taken from the translation of one of the lines of verses concluding the *Sayings of St Bernard*, a 13th-century poem written in Middle English[34]. This topos is in reality much older, since it can be found in Biblical texts such as Psalms, Job, Ecclesiastes, and Lamentations[35]. The *Ubi sunt* motif is conceptually linked to the 'dances of death' (aka *danses macabres*). These dances were a typically medieval literary, pictorial, sculptural, and even popular-theatre genre that spread throughout Europe as an allegory to the universality of death. In this genre,

[27] RUSE 1996, 26.

[28] ENJUTO RANGEL 2010, 9.

[29] MITCHELL 2001.

[30] FLOR 2005.

[31] E.g. DONLAN *et al.* 2006; CARO 2007; JØRGENSEN 2019; TOIT 2019.

[32] HIGGS 2003, 145.

[33] DONLAN *et al.* 2005.

[34] CROSS 1958.

[35] FULLER 2010.

either explicitly or implicitly Death leads his victims to the grave in a sort of dance or procession. Descriptions of the 'dances of death' and their development can be found elsewhere[36].

As a literary topic with different traditions, the pagan version of the *Ubi sunt* is characterised by its melancholic tone, which longs for the 'good old days' that will never come again, evoking a sense of loss, longing, and nostalgia at the passing of life's beauty and joys[37].

If an exercise of parallel between the *Ubi sunt* motif and fossils is carried out, the latter can be regarded as a special category of *memento mori*, a topic of remembrance of the inevitability of death whose commonest object is the skull. As a result, the fossil assemblages of vertebrates would qualify as a metaphor for contemporary cemeteries.

## Concluding remarks

Analysing the psychological determining factors behind Quaternary palaeontology practice contributes to better understand the 'how and why' of this science.

Nostalgia for past times and the feeling of loss of a world that will never return are the emotional landmark of Quaternary palaeontology. Additionally, Quaternary palaeontology can be regarded as emotionally 'decadentistic'. The reason is that the intellectual hallmark of such a 19th-century literary movement — which in turn can be related to the literary pagan version of the *Ubi sunt* tradition — was precisely the nostalgic turn on the past.

While this work specifically concerns Quaternary palaeontology, it can probably serve as a guide to reveal the perceptions and motivations behind other sciences.

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[36] E.g. CLARK 1950; SPIVACK 1988; GERTSMAN 2010, 3–13; MACKENBACH & DREIER 2012.

[37] SCIACCA 2006; ATCHLEY & SAUER 2008.

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