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COLLECTION: *Natural History in Early Modern France: The Poetics of an*

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FEELING DIVINE NATURE:

NATURAL HISTORY, EMOTIONS AND BERNARD PALISSY'S KNOWLEDGE
PRACTICE

Susan Broomhall

This essay examines the participation of Protestant potter and author Bernard Palissy, 'inventor of rustic figulines' and supplier of ceramic artefacts and installations to the late sixteenth-century French court, within sixteenth-century natural history production.¹ Palissy's ceramic works presented striking intricate designs of plant and animal life present in ponds and swamps, while his published texts elaborated complex systems within the natural world in which the specific properties of waters and salts acted in powerful ways. I argue that Palissy's knowledge was revealed through an integrated oral, textual and material practice, which represented a method for both discovering and disseminating what he apprehended through his emotions. It was an affective practice of natural history that was produced through individual aesthetic appreciation, spiritual revelation and emotional response to both scholarly works and sensory experiences of spaces and objects to be touched, seen, heard and smelled. However, as I explore here, Palissy did not enjoy the sociality, stimulation and validation of like-minded practitioners, factors that helped other scholars to form

¹ As recorded on the titlepage of his *Recepte veritable par laquelle tous les hommes de la France pourront apprendre à multiplier et augmenter leurs thresors ... par Maistre Bernard Palissy, ouvrier de terre, & inventeur des Rustiques Figulines...* (La Rochelle, Barthelemy Berton: 1563)

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a sense of themselves as a cohort and their practices as constituting disciplinary techniques. This has obscured his unique affective knowledge production from consideration among his contemporaries within modern scholarship. Indeed, Palissy's unusual method of apprehension and dissemination through highly individual textual and material practices both emerged from, and resulted in, his lack of integration with the natural history community of his era.

Bernard Palissy was a glass painter, land surveyor, preacher, author, and self-taught ceramicist who became a favoured artist of the royal court in 1548 where his unique ceramic style captured the interest and patronage of first Anne de Montmorency and then Catherine de Médicis. Recent excavations have located the site of his workshops and kilns during these years within the Tuileries gardens.² Royal patronage also offered Palissy for a time some measure of protection to practise his Protestant faith during the upheavals of the religious wars and the intensification of Catholic political and religious dominance in Paris. His multiple occupations were characteristic of a determined and curious personality, holding as fast to vast interests in the natural world around him as to his faith. Palissy travelled widely, collecting specimens across France to advance his knowledge about the natural world. What he acquired would be presented in printed publications, public lectures in Paris that covered an ambitious array of subjects from the waters of rivers and wells, metals and mithridatium, to vegetable and generative salts, precious gems, ice and the formation of stones, and through a cabinet of curiosities that he advertised as open to the perusal

² B. Dufay - Y. de Kisch - D. Poulain - Y. Roumegoux - P.J. Trombetta, "L'Atelier parisien de Bernard Palissy", *Revue de l'art* 78 (1987) 35-60; Dufay - Trombetta, "Un atelier d'art et d'essai aux Tuileries", in *Bernard Palissy. Mythe et réalité. Catalogue d'exposition Palissy à Saintes* (Niort - Agen: 1990) 56-67; Y de Kisch, "Une réapparition archéologique", in Lestringant, F. (ed.), *Actes du Colloque Bernard Palissy, 1510-1590: L'écrivain, le réformé, le céramiste: journées d'études 29 et 30 juin, 1990, Saintes - Abbaye-aux-Dames* (Mont-de-Marsan-Niort: 1992) 183-86; T. Crépin-Leblond (ed.), *Une orfèvrerie de terre. Bernard Palissy et la céramique de Saint-Porchaire*, exposition du Musée national de la Renaissance, Château d'Ecouen, 24 septembre 1997 – 12 janvier 1998 (Paris: 1997)

of interested scholars. Palissy had earlier assumed the duties of a preacher in the town of Saintes, and his Protestant beliefs would be foundational to his natural-philosophical and -historical ideas. His faith would eventually see him exiled to Sedan and finally imprisoned in Paris, dying in the Bastille in 1590.³

Scholarly interest in Palissy has increased rapidly in recent years. He has been explored as a ceramic technician and artist,⁴ for his faith,⁵ his artisanal origins,⁶ and is now beginning to be considered as one of the more unusual contributors to early natural history and philosophy.⁷ The precise degree of his contribution to contemporary natural history is however a matter for debate. While, for some, Palissy was little more than a compiler of available scientific ideas, others see his ceramic works as ‘expressive embodiments—both heuristic and illustrative—of his innovative, and sometimes controversial, theories about natural history.’⁸ In this

³ For biographical studies, see L. Audiat, *Bernard Palissy, étude sur sa vie et ses travaux* (Paris: 1868); E. Dupuy, *Bernard Palissy, l’homme, l’artiste, le savant, l’écrivain* (Paris: 1902; Geneva: 1970)

⁴ L.N. Amico, “Les céramiques authentiques de Bernard Palissy”, *Revue de l’art* 78 (1987) 61-6; Poulain, “Les rustiques figulines du Musée des Beaux-Arts de Lyon”, *Bulletin des musées et monuments lyonnais* 3-4 (1993) 24-7; Poulain, ‘Sources du répertoire décoratif de l’atelier des Tuileries,’ in *Actes du Colloque Bernard Palissy, 1510-1590*, 187-199; L.N. Amico, *Bernard Palissy. In Search of Earthly Paradise* (Paris: 1996); I. Perrin, *Les Techniques céramiques de Bernard Palissy* 2 vols (Paris: 2000).

⁵ F. Lestringant, “Le Prince et le Potier: introduction à la ‘Recepte Veritable’ de Bernard Palissy (1563)”, *Nouvelle Revue du Seizième siècle* 3 (1985) 5-24; E. Trocmé, “Bernard Palissy, témoin de l’enthousiasme moral des premiers réformés français”, in *Actes du Colloque Bernard Palissy, 1510-1590*, 39-56; C. Randall, “Structuring Protestant Scriptural Space in Sixteenth-Century Catholic France”, *Sixteenth Century Journal* 25, 2 (1994) 341-352.

⁶ M.-M. Fragonard, “Bernard Palissy: héritage de la science écrite et transmission des connaissances techniques”, in Roig Miranda, M. (ed.) *La transmission du savoir dans l’Europe des XVIe et XVIIe siècles*, Colloques, congrès et conférences sur la Renaissance 19 (Paris: 2000) 27-42; H.R. Shell, “Casting Life, Recasting Experience: Bernard Palissy’s Occupation between Maker and Nature”, *Configurations* 12, 1 (2004) 1-40, reprinted as “Earthworks: The Ceramic Display of Natural Knowledge in Clay”, in Klein, U. and Spary, E. (eds), *Materials and Expertise in Early Modern Europe*, (Chicago: 2010) 50-70; P.H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: 2004), specifically 100-6.

⁷ J.R. Armogathe, “L’homme de science”, in *Bernard Palissy. Mythe et réalité*, 24-7; M. Kemp, “Palissy’s Philosophical Pots: Ceramics, Grottoes and the Matrice of the Earth”, in Tega, W. (ed.) *Le origini della modernità*, vol. 2: *Linguaggi e saperi nel XVII secolo*, 2 vols (Milan: 1999) 72-78; M. Kemp, *Visualizations: The Nature Book of Art and Science* (Berkeley: 2000) 18-19.

⁸ Quote from Shell, “Casting Life”, 5. For doubts about his originality, see L. Thorndike, *A History of Magic and Experimental Science*, vol 5: *The Sixteenth Century*, 14 vols (New York: 1941) 596-599; P. Duhem, “Léonard da Vinci, Cardan et Bernard Palissy”, *Bulletin Italien* 6, 4 (1906) 289-320; K. Cameron, “L’originalité de Bernard Palissy”, in *Actes du Colloque Bernard Palissy, 1510-1590*, 133-43.

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essay, I consider natural history in three ways: as knowledge produced within a particular community that defined what scholarly identity, interactions and practices look like; as knowledge produced according to a shared epistemology that aimed to systematize a historically-contingent practice of observation within that community; and as knowledge produced in technologies that enabled and communicated both community and systematization.⁹ With these aspects of natural history in mind, Palissy's practice was deeply problematic as contemporary natural history.

One of the challenges of interpreting Palissy's contributions to natural history resides in reconciling his claims to innovation as 'ne Grec, ne Hébreux, ne Poete, ne Rhetoricien, ains un simple artisan bien pauvrement instruit aux lettres'¹⁰ - a stance that Pamela H. Smith has suggested expressed 'a specific artisanal epistemological radicalism'¹¹ - while at the same time demonstrating a desire to participate in a wider, scholarly community with whom his ideas could be tested, most of whom were in sixteenth-century France - unlike Palissy - Catholic and university-trained. As James J. Bono has argued, specific hermeneutical strategies emerged from precise social and cultural communities of knowledge, and Peter Harrison suggests, increasingly, in the early modern period, 'tests for the trustworthiness of observers stressed social status,

⁹ L. Daston - E. Lunbeck, "Introduction: Observation Observed", and G. Pomata, "Observation rising: birth of an epistemic genre, ca. 1500-1650", in Daston, L. - Lunbeck, E. (eds) *Histories of Scientific Observation* (Chicago: 2011) 1-9, 45-80; P. Findlen, "The Formation of a Scientific Community: Natural history in sixteenth-century Italy", in Grafton, A. - Siraisi N. (eds) *Natural Particulars: Nature and the Disciplines in Renaissance Europe* (Cambridge, Mass.: 1999) 369-400; Findlen, "Natural History", in Park, K. - Daston, L. (eds) *The Cambridge History of Science*, vol. 3: *Early Modern Science*, 5 vols (Cambridge: 2006) 435-68; B.W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: 2006); Ogilvie, "La storia naturale tra libro ed esperienza", in Clericuzio, A. - Ernst, G., (eds), *Il Rinascimento italiano e l'Europa*, vol. 5: *Le scienze* (Vicenza: 2008) 163-178

¹⁰ "A Monseigneur le Mareschal de Montmorancy", *Recepte véritable* in Palissy, *Oeuvres complètes* Textes littéraires de la Renaissance 5, eds K. Cameron - J. Céard - M.-M. Fragonard - M.-D. Legrand - F. Lestringant - G. Schrenk (Paris: 2010) 92.

¹¹ Smith, "Giving voice to the hands: the articulation of material literacy in the sixteenth century", in Trimbur, J. (ed.) *Popular Literacy: Studies in Cultural Practices and Poetics* (Pittsburgh: 2001) 74-93, 76. Other scholars have understood Palissy's claim as an aspect of the modesty *topos* of the era.

education and training, personal virtues, and institutional settings.’¹² Lacking access to the natural history scholarly counterparts in France as a result of his artisanal and professional status, was, I argue, both a cause and a result of Palissy’s unique practice that emerged from emotional engagement with the world around him and that was produced through technologies that were not shared by contemporary scholars and thus not capable of transmitting his contributions to them in ways that they recognised for the production of natural history.

Palissy shares much in common with the generation of natural historians whom Brian W. Ogilvie has described as engaged in ‘phytographic exploration’.¹³ These scholars of the 1530s and 1540s pursued field studies with an almost devotional zeal, often forming cohorts to ‘discover,’ collect and document botanical matter in their local regions. They placed value on their own experiences and even highlighted the physical and emotional hardships of their endeavour. Yet Ogilvie observes that the ‘sober prose of natural history texts disguised this labor, except in the occasional prefatory remark, but it was an important means for the community of naturalists to constitute itself.’¹⁴ Palissy likewise travelled extensively through various regions of France, but he described himself as a lone participant in these endeavour and what he documented were individual, explicitly affective, experiences of the world around him. Emotions thus produce early modern knowledge in varied ways.¹⁵ Where shared emotional experiences in the wilderness brought the mainstream community of naturalist together, Palissy, the self-proclaimed outsider, made emotions central to his production of natural history knowledge in a very different way, as a spiritual act of

¹² P. Harrison, “Natural History”, in Harrison, P. - Numbers, R. L. - Shank, M.H. (eds), *Wrestling with Nature: From Omens to Science* (Chicago: 2011) 117-48, 124.

¹³ Ogilvie, “Travel and natural history in the sixteenth century”, in Ogilvie, B.W. - te Heesen, A. - Gierl, M. (eds) *Sammeln in der Fruhen Neuzeit*, Max-Planck-Institut für Wissenschaftsgeschichte Preprint No. 50 (Berlin: 1996) 3-28 10.

¹⁴ Ogilvie, “Travel and natural history” 21.

¹⁵ See S. Broomhall (ed.), *Ordering Emotions in Europe, 1100-1700* (Leiden: 2015)

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contemplating nature, and one that problematized how a singular affective experience of the world could participate in the development of the discipline of natural history that systematized modes of knowledge production about the natural world.

Palissy challenged contemporary natural history production not only by his particular emotional approach but also by the technologies he employed. Printed texts and lectures were standard ‘technologies of the literal,’ to apply the term of James J. Bono, so too was Palissy’s cabinet of objects that he made available to the curious scholar.¹⁶ But far more problematic as a technology of apprehension and dissemination of natural history were Palissy’s ceramic works – because of their unusual form but also because of the particular community to which they circulated his findings. This was to not natural history scholars but instead the French court where his most important patron was a woman, Catherine de Medici.¹⁷ The practices and processes by which natural history, and knowledge more broadly, has been produced has been of interest to scholars from a wide range of disciplines. Sociologists Bruno Latour, Karin Knorr Cetina have sought to emphasise ‘knowledge as practiced - within structures, processes, and environments that make up *specific* epistemic settings,’¹⁸ while for the early modern period, the work of Lorraine Daston and Elizabeth Lunbeck on scientific observation as a constructed, historically contingent set of shared practices also make clear how knowledge is produced

¹⁶ J.J. Bono, “The Two Books and Adamic Knowledge: Reading the Book of Nature and Early Modern Strategies for Repairing the Effects of the Fall and of Babel”, in Mandelbrote, S - van der Meer, J. M. (eds) *Nature and Scripture in the Abrahamic Religions: Up to 1700*, vol. 1, Brill’s series in church history 37 (Leiden: 2008) 317-25.

¹⁷ There has been strong recent interest in the significance of the corporeal in Palissy’s natural knowledge. See P.H. Smith and H.R. Shell above, and more broadly on this topic, P. H. Smith, “The History of Science as a Cultural History of the Material World”, in Miller, P.N. (ed.) *Cultural Histories of the Material World* (Ann Arbor: 2013) 210-225.

¹⁸ K. Knorr Cetina, *Epistemic Cultures: How the Sciences Make Knowledge* (Cambridge, Mass.: 1999) 8. B. Latour - S. Woolgar, *Laboratory Life: The Construction of Scientific Facts* (Princeton: 1979); B. Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge, Mass.: 1987); K. Barad, “Posthuman Performativity: Towards an Understanding of How Matter Comes to Matter”, *Signs: Journal of Women in Culture and Society* 28, 3 (2003): 801-831; K. Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter* (Durham, NC: 2007)

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through performative practices such as observing, attending and documenting as well as within specific networks of sociability.¹⁹ Palissy's natural history was enacted through textual and material performances that were vitally emotional and multisensory. Glazed blues, greens and browns in the manner of jasper, using life casts of fish, lizards, snakes, shells, lobsters and frogs as well as ferns and foliage, Palissy created vivid and dynamic visualisations reminiscent of the marshlands of the Saintonge region which he roamed in the formative years of his adult life. (See Figure 1) These works were an integral part of his search for answers, a process of perception that was formed through Palissy's emotions – his desire to know and to prove that he could succeed. Palissy's ceramic practice thus can and should be considered together with his published texts and his decisions to preach and lecture as a coherent practice of knowledge production about the natural world, apprised through the emotions.

INCLUDE FIG. 1 CAPTION HERE: Bernard Palissy, Large 'rustic' dish in the form of a pod, End of the 16th Century, Terra cotta with high-fire, lead-containing glaze, 75.5 x 45.5; height 13.8cm. Musée de Beaux-Arts, Lyon. Inv. Nr 175.

Earth and fire: emotional encounters with matter

The key moment that started Palissy on his lifelong passion for natural history was his affective response to a material object. Twenty-five years later, he recalled the day when he was shown

an earthen cup, fashioned and enamelled with such beauty that since then I have been in turmoil with my own mind, remembering some of the comments that were said to me, mocking me, when I painted

¹⁹ See references at n 14 above.

images.²⁰

Palissy turned such disparaging remarks, which he notes repeatedly across his texts, and his own doubts about his capacity, into a power that he proudly displayed in the very texts that celebrated his triumph; they stoked the fire of his determination. His deeply emotional response to this object and to the disapproval and mockery of others sustained him over the long term. By his own account of trials and hardships, Palissy laboured for sixteen years in attempts to replicate the stunning form of that cup. Although he was ultimately unable to realize white enamel, Palissy developed a unique and captivating style of his own. In doing so, he documented in material and textual forms a natural history knowledge that was the result of the affective experience of hard labour that demanded patience to persevere against the resistance of nature itself. Both time on the one hand, and physical and emotional effort on the other, were required to access the ‘secret’ knowledge of matter that was gained in singular instances.

Palissy’s decision to make his own enamel required him to learn a series of technical processes, each of which forced him to delve deeper into encounters with the natural world. These were the subject of Palissy’s quasi-autobiographical chapter in which he proposed to reveal the ‘secrets’ that he had found through ‘the art of pottery, together with the composition and diverse effects of enamel’ in his *Discours admirables*, published in 1580.²¹ As Palissy himself argued, ‘a man who seeks the art

²⁰ ‘une coupe de terre, tournée & esmaillée d’une telle beauté que deslors j’entray en dispute avec ma propre pensée, en me rememorant plusieurs propos, qu’aucuns m’avoyent tenus en se moquant de moy, lors que je peindois les images’. “De l’Art de terre, de son utilité, des esmaux & du feu”, *Discours admirables, de la nature des eaux et fontaines, tant naturelle qu’artificielles, des métaux, des sels & salines, des pierres, des terres, du feu & des emaux. Avec plusieurs autres excellens secrets des choses naturelles* (Paris, Martin le Jeune: 1580); Palissy, *Oeuvres complètes* 486.

²¹ ‘l’art de terre, ensemble les compositions & divers effects des esmaux’. “De l’Art de Terre”, *Oeuvres complètes* 485.

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of pottery is always an apprentice because of the unknown nature of different soils'.²² Given that few precise secrets were revealed, some scholars have suggested that Palissy's emphasis on the hardships of his profession may have been intended to put off potential competitors to his commercial markets. Marie-Madeleine Fragonard has by contrast proposed that the narrative that Palissy produced of repeated catastrophes which nonetheless led to revelation exploited long-held myths about the process of artistic creation.²³ She argues that, over the course of his account, the reader followed Palissy's path from an orderly existence to a marginal, obsessive but ultimately creative, space.²⁴ However, Palissy's many repeated expressions of his emotional state have not been brought to bear on his knowledge as anything other than as evidence of his physical and mental degradation.²⁵ In this section, I explore a series of Palissy's affective responses to, and impetus from, his encounters with matter, from different types of clay, to furnaces and temperatures.

Among his early challenges was his struggle to determine the correct firing temperature for the specific types of clay he had used. This was no mere mechanical process of trial and error but a whole body labour of feelings and physical capabilities. Palissy described how he had 'struggled several years thus, imprudently, with sadness and sighs'.²⁶ Significantly, Palissy's emotions are continually foregrounded in the textual account in which he explained how he developed his knowledge of the 'art of clay'. When the sample pieces that he had sent for firing in the kilns of professional enamellists came back in ruins, 'I received nothing but

²² 'un homme qui besongne de l'art de terre, est tousjours apprentif à cause des natures inconnuës és diversitez des terres'. "Des Terres d'Argile", *Discours; Oeuvres complètes* 476.

²³ M.-M. Fragonard, "Les meubles de Palissy: Biographie d'artiste, légende et mythes", in *Actes du Colloque Bernard Palissy. 1510-1590* 25. See also M. Thauré, "Bernard Palissy: Le savant derrière le mythe", in Dhombres, J.G. (ed.), *Aventures scientifiques: savants en Poitou-Charentes du XVIe au XXe siècle* (Poitiers: 1995) 160-71.

²⁴ Fragonard, "Les meubles de Palissy" 27.

²⁵ *Ibid.* 32.

²⁶ 'bastelé plusieurs années ainsi imprudemment avec tristesse & soupirs'. "De l'Art de terre", *Oeuvres complètes* 487.

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shame and loss'.²⁷ Palissy regularly emphasised the opacity of his materials, which required a calm patience that he, at first, lacked :

Because I did not know why my experiments had not worked, I placed ... the blame on the materials ... always at great cost, loss of time, confusion and sorrow.²⁸

He briefly abandoned his quest, deciding to give up on his quest to discover 'the secret of enamels'.²⁹ However, having taken up paying work once more, Palissy discovered that his feelings had changed: 'I regained my affection to pursue the path of enamels'.³⁰

Palissy then considered whether the kilns of glassmakers, fired at higher temperatures than those of potters, might be a better resource for his distinct clay materials. After trialling some three hundred samples, he discovered one among them that had turned out well: 'this test turned out white and polished, which caused me such joy that I thought I had become a new creature'.³¹ Palissy reflected that this was a revelation from God just when 'I began to lose courage'.³² At each new stage, Palissy's emotional state – from frustration and despair to delirium – were central to his progress.

Palissy then moved to construct his own furnace. It too was a task that would involve him in physical and emotional suffering. In one of the most famous episodes of his trials, Palissy recounted how he was 'forced to burn the palings that fenced my garden ... the tables and flooring of the house ... I was in such anguish'.³³ However,

²⁷ 'je n'en recevois que honte & perte'. Ibid. 488.

²⁸ 'parce que je n'avois connoissance de la cause pourquoy mes espreuvres ne s'estoyent bien trouvées, je mettois ... le blasme sus les matières ... tousjours avec grands frais, perte de temps, confusion & tristesse'. Ibid. 488.

²⁹ 'les secrets des esmaux'. Ibid. 488.

³⁰ 'je reprins encores l'affection de poursuyvre à la suite desdits esmaux'. Ibid. 488.

³¹ 'laquelle espreuve se trouva blanche & polie de sorte qu'elle me causa une joye telle que je pensois estre devenu nouvelle creature'. Ibid. 489.

³² 'je commençois à perdre courage'. Ibid. 489.

³³ 'contraint brusler les estapes qui soustenoyent les trailles de mon jardin, ... les tables & plancher de la maison. ... J'estois en une telle angoisse'. Ibid. 490.

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his emotions made possible remarkable achievement: the desire that I had to success in my endeavour made me do things that I would have thought impossible'.³⁴ Just when he thought he was on the right path, however:

My sorrows and pains were increased so greatly that I lost all countenance. For, however much my enamels and work were good, two accidents had occurred to the furnace that ruined everything.³⁵

The flinty mortar that he had used for his furnace had exploded in the heat and left incrustations in the pottery. Palissy was devastated: '[I] lay down in melancholy'.³⁶

The explicit and deliberate manner in which Palissy articulated his dynamic affective experiences suggest more than simply a dramatic turn of phrase. The apprehension of meaning about matter in the natural world was experienced by Palissy in ways that were both physical and emotional. As Hanna Rose Shell suggests, human 'endurance and craftsmanship triggered simultaneous artefactual and epistemological generation.'³⁷ Yet Palissy's affective responses to matter were crucial to the decisions he made about his practices and the knowledge that he produced through them. His pain and suffering were justified by the 'secret' nature of matter, whether earth, fire or their combination, that demanded dedicated corporeal, emotional and spiritual labour, apprised in cumulative, singular experiential episodes.³⁸ In doing so, Palissy confronted and challenged the epistemic structure of natural history, because his individual affective production of the knowledge of matter resisted its work of systematization.

³⁴ 'le desir que j'avois de parvenir à mon entreprinse me faisoit faire des choses que j'eusse estimé impossibles'. Ibid., 492.

³⁵ 'mes tristesses & douleurs furent augmentees si abondamment que je perdois toute contenance. Car combien que mes esmaux fussent bons & ma besongne bonne, neantmoins deux accidens estoient survenuz à laditte fournée, lesquels avoyent tout gasté'. Ibid. 492.

³⁶ 'me couchay de melancholie'. Ibid. 493.

³⁷ Shell, "Casting Life" 39.

³⁸ See similarly, the 'experiential' rather than 'observational' knowledge derived from trial and error in the academic medical discipline of *practica*, which Katharine Parks describes as having a '(by Scholastic standards) shaky epistemic basis'. K. Park, 'Observation in the Margins, 500-1500', in Daston - Lunbeck (eds) *Histories of Scientific Observation* 36.

Empathetic contemplation as hermeneutic strategy

Through the corpus of his work, we learn that it is through his affective responses to a multisensory exploration of nature that Palissy produced his situated knowledge. He looked at the world around him certainly ('I saw several times asps and snakes laying and coiled in the bottom of marsh water'³⁹) but it is more than this. Palissy *perceived* and *contemplated*. He witnessed, with humility, his head bowed; that is, he opened himself up to what God could teach him: 'I went about the fields my head lowered, to contemplate the works of nature'.⁴⁰ It was a spiritual contemplation of the world around that was a complex and highly-charged emotional response to textual knowledge in which natural history, natural theology and personal devotion were critical elements. As he told his readers: 'I have no other book that the sky and the earth, which is known to us all, and is available for all to learn how to read this beautiful book'.⁴¹ Palissy's apprehension of the book of nature was a trope that would later become common to Protestant natural history discourse, developed strongly in seventeenth-century England.⁴² His interpretation of meaning edged towards natural theology as we see it more fully expressed in later Protestant English works, in the sense that it was for Palissy, a religious activity and his life's work a quasi-religious vocation.⁴³ But already, the trope of 'rustification,' as Danièle Duport has suggested,

³⁹ 'J'ay veu plusieurs fois des aspics & serpens, couchez et entortillez au fond des eaux desdites mares'. "Des Eaux et Fontaines", *Discours; Oeuvres complètes* 262.

⁴⁰ 'je m'en allois par les champs la teste baissée, pour contempler les euvres de nature'. "Traité des Métaux et alchimie", *Discours; Oeuvres complètes* 345.

⁴¹ 'Je n'ay point eu d'autre livre que le ciel & la terre, lequel est connu de tous, & est donné à tous de connoistre à lire ce beau livre'. "Des Pierres". *Discours; Oeuvres complètes* 427.

⁴² See J.H. Brooke, *Science and Religion. Some Historical Perspectives* (Cambridge: 1991); P. Harrison, *The Bible, Protestantism, and the Rise of Natural Science* (Cambridge: 1998); B. J. Shapiro, *A Culture of Fact. England, 1550–1720* (Ithaca: 2000); S. Mandelbrote, "The Uses of Natural Theology in Seventeenth-Century England", *Science in Context* 20, 3 (2007) 451-480; S. Mandelbrote, "Early Modern Natural Theologies", in Brooke, J.H. - Re Manning, R. - Watts, F. (eds), *The Oxford Handbook to Natural Theology* (Oxford: 2013) 75-99.

⁴³ See P. Harrison, "The cultural authority of natural history in early modern Europe", in Alexander, D.

took sixteenth-century French Protestant agricultural and horticultural treatises such as those of Palissy and Olivier de Serres in innovative directions.⁴⁴

Palissy framed these revelations of nature's secrets as consequences of his willingness to be among nature, indeed *with* nature, his head bowed in an attitude of both close attention and humility. Thus, while travelling in the countryside between Marennnes and La Rochelle,

I perceived a new hollow pit, from which had been drawn more than one hundred cartloads of shells ... from then on, I went on my walks with my head bowed, so as to miss nothing that could help me think what could be the cause of this ... This was the reason from then on that made me imagine and fill my mind with some of the secrets of nature.⁴⁵

In his essay on stones, Palissy insisted upon the importance of his experiences over widely-held theoretical positions 'which taught me more philosophy than did Aristotle'. There he found knowledge that 'I cannot read in Aristotle and that I read perfectly in these marcasites and heard from them.'⁴⁶ Palissy suggested through his work how 'practice' was to be prioritized over 'theory,' using the two as protagonists in dialogue – a form, as Franck Lestringant has noted, that was commonly used for teaching the reformed catechism.⁴⁷ However, his attitude to scholarly works and the textual was somewhat more complicated.

Natural history knowledge derived from book-based learning earned Palissy's

R. - Numbers, R.L. (eds) *Biology and Ideology from Descartes to Dawkins* (Chicago: 2010) 15.

⁴⁴ D. Duport, "Jardiniers protestants en France au XVIe siècle", in Dupèbe, J. (ed.) *Esculape et Dionysos: Mélanges offerts à Jean Céard* (Geneva: 2007) 833-46; Duport, *Le Jardin et la nature: ordre et variété dans la littérature de la Renaissance*, Travaux d'humanisme et Renaissance 363 (Geneva: 2002) 89.

⁴⁵ 'j'ay apperceu un fossé creusé de nouveau, duquel on avoit tiré plus de cent charretees de pierres, ... et deslors je commençay à baisser la teste, le long de mon chemin, afin de ne voir rien, qui m'empeschast d'imaginer, qui pourroit estre la cause de cela ... Voila la cause, qui depuis ce temps là, me fit imaginer et repaistre mon esprit de plusieurs secrets de nature'. *Recepte; Oeuvres complètes* 135-6.

⁴⁶ 'lesquelles m'ont instruit en la philosophie beaucoup plus que non pas Aristote: ... que je ne puis lire en Aristote & j'ay bien leu ausdites marcassites & ay entendu par icelles'. "Des Pierres", *Oeuvres complètes* 452.

⁴⁷ Lestringant, "Le Prince et le Potier".

avowed disdain:

A Geber, a Roman de la Rose, and a Raimond Lulle, and some disciples of Paracelsus, and some other Alchemists have left books in study of which some have lost both their time and their goods. These pernicious books caused me to scratch the earth for the space of forty years, and to search its entrails, so as to know the things it produces.⁴⁸

But Palissy's position constituted more than simply a form of false scholarly modesty or claim to artisanal novelty, for his emotional response to these works, his dissatisfaction with their answers, was crucial to his journey of discovery.⁴⁹ Books were in fact crucial to Palissy's process. Firstly, he demonstrated a fair measure of scholarly knowledge that he had gained from texts, notably referencing a number of authors whose hermetic conceptualization of natural history perhaps matched his own sense of such knowledge as 'secret.' Secondly, his affective response to insufficiencies he found within such works drove him to the field. This shift was not unique to Palissy but common to a number of authors who sought to assert the validity of their experiences of nature alongside or in place of knowledge of texts (although Palissy's foregrounding of the affective dimensions of this process was more unusual).⁵⁰ Among them was Paracelsus, who received rather short shrift from Palissy.⁵¹ Finally, as the examples above suggest, even the presentation of his apprehension of nature operated within a textual paradigm, as Palissy claimed to 'read' quite literally the book of nature.

⁴⁸ 'Un Geber, un Roman de la roze, & un Raimond Lule, & aucuns disciples de Paracelse, & plusieurs autres Alchimistes ont laissé des livres en l'estude desquels plusieurs ont perdu & leurs temps & leurs biens. Tels livres pernicious m'ont causé gratter la terre, l'espace de quarante ans, & fouiller les entrailles d'icelle, à fin de connoistre les choses qu'elle produit dens soy'. "A treshaut et trespuissant sieur le sire Antoine de Ponts", *Discours; Oeuvres complètes* 246-7.

⁴⁹ For the standard views, E. Dupuy, "Ses lectures", in *Bernard Palissy* 139-90; Thauré, "Bernard Palissy: Le savant derrière le mythe", Fragonard, "Bernard Palissy: héritage de la science écrite", Fragonard, "Introduction", *Oeuvres complètes* 11-46.

⁵⁰ Ogilvie, "Travel and natural history"; Ogilvie, *The Science of Describing*, Ogilvie, "La storia naturale tra libro ed esperienza".

⁵¹ Interestingly, Bono describes Paracelsus' rejection of book-based learning in strongly emotive language without discussing the affective dimensions of his stance. Bono, "The Two Books and Adamic Knowledge" 313.

Palissy's capacity to perceive and appreciate the book of nature was a gift from God, a 'just thing before God and of great recreation to those who admirably want to contemplate the marvellous works of God.'⁵² It required appreciation for the bountiful splendour of nature which God had enabled him to discern; knowledge that he would produce through his ceramic practice, texts and lectures with missionary zeal. Importantly, Palissy's capacity to contemplate natural knowledge - constituted as a spiritual act – was revealed in his works as empathetic attachment to nature. Indeed, Palissy was so sensitively disposed to nature that he could experience its cries and its joys. Observing the way in which woodcutters unsustainably lopped branches, Palissy lamented:

The abuses that they commit every day to trees forces me to speak thus with affection ... I am amazed that the wood does not cry at being so villainously mauled. Do you think that the trunk that has be thus split and ripped out in various places does not feel the division and exaction that is done to it?⁵³

Palissy demanded respect for nature and its benevolence, and was amazed 'that the earth and the things produced in it do not demand vengeance against these ignorant and ungrateful maulers who do nothing other than destroy and dissipate the trees and plants daily, without any consideration'.⁵⁴ He took pleasure in watching squirrels 'who rejoice as they take their meals and dine on walnuts'.⁵⁵ Disposed as was Palissy, one could perceive the emotional life of the natural world.

Nature was, for Palissy, a world imbued with feelings that those appropriately attuned could behold. He reflected of fruiting plants, 'nothing in nature produces its

⁵² 'chose juste devant Dieu, et de grande récréation à ceux qui admirablement veulent contempler les oeuvres merveilleses de Nature'. *Recepte; Oeuvres complètes* 189.

⁵³ 'Les abus qu'ils commettent tous les jours és arbres, me contraignent en parler ainsi d'affection ... Je m'esmerveille que le bois ne crie d'estre ainsi vilainement meurtri. Penses-tu que la seppe qui est ainsi fendue et esclatée en plusieurs lieux, qu'elle ne se ressente de la fraction, et extorsion qui luy aura esté faicte?' Ibid. 121-2.

⁵⁴ 'que la terre et les natures produites en icelle ne crient vengeance contre certains meurtrisseurs, ignorans, et ingrats, qui, journellement ne font que gaster et dissiper les arbres et plantes, sans aucune consideration'. Ibid. 109.

⁵⁵ 'qui se resjouyssoient, en prenant leur repas et disner sur lesdits Noyers.' Ibid., 193.

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fruit without great effort, indeed, and pain'.⁵⁶ Grapevines that wrapped their leaves around budding fruit were careful to protect their fruit, like a woman her infant'.⁵⁷

Thus he interpreted the specific pattern of branch growth in trees in equally anthropomorphic terms:

I have perceived also how trees at the edge of the forest throw themselves out or incline themselves towards the edge of the lands, as if the other trees were their enemies.⁵⁸

Palissy's empathetic contemplation required not only respect for the feelings of nature but a capacity to *feel with* the natural world. In doing so, one could derive appreciation of heavenly gifts on earth, and be brought closer to God.

In many ways, Palissy appeared to foreshadow ideas that were articulated more fully in the work of Francis Bacon. In his love of nature, Palissy evoked Lucretius and Virgil.⁵⁹ Palissy hoped to encourage a love of the earth in others, for such a love would produce manifold benefits:

if men had as great a zeal and were as fond of working the earth as they are fond of buying offices, profits, and honours, then the earth would be blessed and the toil of he who cultivated it.⁶⁰

But his advocacy for the utility of sensitive technological applications in agriculture or forestry also formed part of what Peter Harrison terms the 'Calvinist conception of the sanctity of work' that was more fully articulated in Bacon's "'utilitarian" justifications for a new scientific programme.'⁶¹

Additionally, the young Bacon appears to have been in Paris in the very years that Palissy was presenting his lectures. Mark Stoll has noted 'the striking similarities

⁵⁶ 'nulle nature ne produit son fruit sans extreme travail, voire et douleur'. Ibid. 126.

⁵⁷ 'songneux de garder leurs fruits, comme la femme son petit enfant'. Ibid. 190.

⁵⁸ 'j'apperceu aussi que les arbres de la circonference de la forest se jettoient & courboyent ou s'enclinoient devers le costé des terres, comme si les autres arbres leur estoient ennemis'. "Pour trouver et connoistre la Terre de Marne", *Discours; Oeuvres complètes* 527.

⁵⁹ Dupuy, *Bernard Palissy* 264-5.

⁶⁰ 'que les hommes eussent aussi grand zele, et fussent aussi affectionnez au labeur de la terre, comme ils sont affectionnez pour acheter les offices, benefices, et grandeurs, et lors la terre serait benite, et le labeur de celuy qui la cultiveroit'. *Recepte; Oeuvres complètes* 192.

⁶¹ P. Harrison, *The Fall of Man and the Foundations of Science* (Cambridge: 2007) 63.

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between the *Discours admirables* and the famous inductive method and scientific program of *The Advancement of Learning*.⁶² James J. Bono has characterized Bacon's view of nature, a voluntarist perspective, as the contingent product of God's will in which nature bore witness to His 'power, majesty and providence' rather than an interpretable access to God's mind which was 'beyond human comprehension and ... thus unfathomable'.⁶³ What Palissy's contemplation of, and with, nature enabled him to discern were vibrant processes in nature - a set of perfect systems - that God had set in motion:

All the water that is in the world, has been and will be, was all created in one day; and, as the water, seed and metals of all minerals and all the stones have been created in one day; so it is with the earth, air and fire, as the sovereign creator has left nothing empty, and as he is perfect, he left nothing imperfect.⁶⁴

For Palissy, these marvellous systems worked in dynamic ways; each playing their part in a united whole, purposeful in a divine plan:

God did not create these things to leave them idle, thus each does its duty, according to the command given to it from God. The Stars and Planets are not idle, the sea travels from one side and the other, and is working to produce profitable things, the land is similarly never idle: what is consumed naturally in it is renewed and re-formed again, if not in one way, then in another.⁶⁵

⁶² M. Stoll, "'Sagacious' Bernard Palissy: Pinchot, Marsh, and the Connecticut Origins of American Conservation", *Environmental History* 16, 1 (2011) 10 and 29, fn 16. See also A.B. Hanschmann, *Bernard Palissy der Künstler, Naturforscher und Schriftsteller, als Vater der induktiven Wissenschaftsmethode des Bacon von Verulam* (Leipzig: 1903); T.C. Allbutt, "Palissy, Bacon, and the Revival of Natural Science", *Proceedings of the British Academy* vi (1913-14) 223-47; P. Rossi, *Francis Bacon: From Magic to Science*, trans Sacha Rabinovitch, Routledge Library Editions: History & Philosophy of Science 26 (London: 1968) 8-9; J.M. van der Meer, "European Calvinists and the Study of Nature: Some Historical Patterns and Problems", in van den Brink, G. (ed.) *Calvinism and the Making of the European Mind* (Leiden: 2014) 113. Perhaps with Palissy in mind, Bacon later reflected that 'occasionally, some unusually intelligent craftsman, seeking to achieve a reputation, devotes himself to making some new invention, usually at his own expense'. Francis Bacon, *The New Organon*, eds. L. Jardine – M. Silverthorne (Cambridge: 2000) Book 1: 81, 66.

⁶³ Bono, "The Two Books and Adamic Knowledge", 311; J.J. Bono, *The Word of God and the Languages of Man: Interpreting Nature in Early Modern Science and Medicine*, vol. 1: Ficino to Descartes (Madison: 1995).

⁶⁴ 'toutes les eaux qui sont au monde, qui ont esté et seront, furent toutes créées en un mesme jour; & si ainsi est des eaux, les semences des metaux & de tous les mineraux & de toutes les pierres ont esté créées aussi en un mesme jour: autant en est il de la terre, de l'aër & du feu, car le souverain createur n'a rien laissé de vuide, & comme il est parfait, il n'a rien laissé d'imparfait'. "Traité des Métaux et alchimie", *Oeuvres complètes* 328-9.

⁶⁵ 'Dieu ne crea pas ces choses pour les laisser oisifves, ains chacune fait son devoir, selon le

Empathy with the natural world and devotion to God's plan for him enabled Palissy to discern the elegant structure that God had set to 'work, to engender, produce, come and go'.⁶⁶ As he described his practice, what Palissy perceived in the natural world was not the product of observation of the kind undertaken by his contemporary naturalist counterparts; it was, rather, *contemplation*; that is, a spiritual enactment of knowledge that combined natural history, natural theology and the zeal of the *dévo*t.

Aesthetic technologies: The pleasure of beauty and the beauty of truth

How could Palissy encourage others to join him on this path, the path effectively of a *dévo*t who suffered for and with the natural world made by an all-powerful God? What technologies could provide the emotional response that would inspire others to his understanding? Palissy recounts that it was his immediate emotional response to a white enamel cup that had inspired him to commence his learning of the natural world. Emotions were pivotal to the production of his knowledge as new matter, spaces and objects, its assemblage, display and reception.⁶⁷

Palissy's creation of ceramic 'knowledge matter' as devotional tools functioned through the power of aesthetic appreciation for a mimesis reliant on his intimate contemplation of precise detail in the natural world. Obtaining a uniform manufacture with his earthen materials was thus a key element of his knowledge

commandement qui luy est donné de Dieu. Les Astres et Planetes ne sont pas oisives, la mer se pourmeine d'un costé et d'autre, et se travaille à produire choses profitables, la terre semblablement n'est jamais oisive: ce qui se consomme naturellement en elle, elle le renouvelle, et le reforme derechef, si ce n'est en une sorte, elle le refait en une autre'. *Recepte; Oeuvres complètes* 132.

⁶⁶ 'travailler à engendrer, produire, aller & venir'. "Des Eaux et Fontaines", "Des Eaux et Fontaines", *Oeuvres complètes* 289.

⁶⁷ My thinking here is shaped by S. Ahmed, *The Cultural Politics of Emotion* (New York: 2004); D. Miller (ed.) *Materiality* (Durham: 2005); J. Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: 2010); O.J.T. Harris - T. Flohr Sørensen, "Rethinking Emotion and Material Culture", *Archaeological Dialogues* 17, 2 (2010) 145-163; D. Coole - S. Frost, *New Materialisms: Ontology, Agency, and Politics* (Durham: 2010); Vaujany, F.X. de - Mitev, N. (eds) *Materiality and Space: Organizations, Artefacts and Practices* (Houndmills: 2013)

practice :

Having made a number of rustic basins & having fired them, some of my enamels turned out beautiful and well made, others badly made; others were burnt, because they were made of different materials that needed to be fired at different temperatures.⁶⁸

Once he could produce uniformity, Palissy was likewise challenged in developing colours that also reflected his apprehension of the natural world:

the green of the lizards was burned before the colour of the snakes had melted, also the colour of the snakes, crayfish, turtles and crabs was melted before the white had received any beauty. All these faults caused me such toil and sorrow of mind..⁶⁹

Colours were critical for Palissy because they were a component of his knowledge production and of its reception by others⁷⁰ This was not a struggle for mastery over manufacture for solely aesthetic or technical achievement, as has been discussed to date, but because truth, for Palissy, could be revealed and apprised through beauty. They were connected aspects of perception, experienced through the emotions.

In the same way, Palissy's grotto constructions can be considered not only as places of pleasure but as sites to create and communicate knowledge. As Pamela H. Smith has argued, grottoes generally were seen to be 'an attempt to mimic the generative forces of nature'.⁷¹ Palissy described the 'rustic grotto' that he was creating for Anne de Montmorency in his 1563 *Architecture et ordonnance de la grotte rustique*. In that work, Palissy allows one of his interlocutors to describe the precise attention to mimetic detail:

⁶⁸ 'Quand j'eus inventé le moyen de faire des pièces rustiques, je fus en plus grande peine & en plus d'ennuy qu'au paravant. Car ayant fait un certain nombre de bassins rustiques & les ayant fait cuire, mes esmaux se trouvoient les uns beaux & bien fonduz, autres mal fonduz, autres estoient brulez, à cause qu'ils estoient composez de diverses matières qui estoient fusibles à divers degrez'. "De l'Art de terre", *Oeuvres complètes* 494.

⁶⁹ 'Le verd des lezards estoit brulé premier que la couleur des serpens fut fondue, aussi la couleur des serpens, escrevices, tortues & cancrs, estoit fondue au paravant que le blanc eut reçu aucune beauté. Toutes ces fautes m'ont causé un tel labeur & tristesse d'esprit'. Ibid. 494-5.

⁷⁰ See Shell, in particular the section 'Nature's Coloring Book', in "Casting Life" 20-24.

⁷¹ Smith, *The Body of the Artisan*, 101. See also N. Miller, "Domain of Illusion: The Grotto in France", in Macdougall, E. (ed.) *Fons Sapientiae: Renaissance Garden Fountains*, Dumbarton Oaks Colloquium on the History of Landscape Architecture 36 (Washington, D.C.: 1978) 175-205.

the worker has used such effort that there is no wrinkle nor scale that is not observed in the sculpture. As to the foliage, I can assure you it is the same, the worker has left out nothing, he has sculpted precisely what nature has taught him, or makes apparent on the exterior. It is even down to the little nerves, arteries, and tiny veins, which are spread across the leaves, however small they are the worker has observed them in his sculpture.⁷²

Interestingly, Palissy's use of the verb, to observe, in this passage did not relate to the emerging natural history practice of observation in the field, but rather to the process by which his *contemplation* of the natural world was then produced in matter, his ceramic sculpture.⁷³ This observation was, in his view, a manifestation in matter of God's gift of perception and empathy for nature. The grotto, with its own source of running water manipulating the visitor's senses, rendered spatially and materially a truth revealed to Palissy by God that was to be experienced affectively, in wonder and awe, by its visitors.⁷⁴ 'This grotto left me completely stunned,' says one interlocutor in the *Architecture*, and of its figures: 'no one could not be astonished to see them, ... but you will understand better the beauty when I tell you more about it'.⁷⁵ As Catharine Randall has argued of these 'entexted' structures, Palissy's 'text functions as an entryway for the reader to the structure of faith.'⁷⁶ Palissy constructed a space in which the visitor could contemplate the revelations that he had experienced in real world space – the grotto was thus a distillation, a literal condensation of knowledge

⁷² 'l'ouvrier a usé de telle industrie qu'il n'y a ride, touche ny escaille, qu'il ne soit observée en ladite insculpture. Quant est des herbes je te peux assurer en cas pareil, que l'ouvrier n'a rien laissé, qu'il n'ayt insculpté jouxte ce que le naturel luy a enseigné, ou fait apparroistre à l'exterieur. Il n'y a pas jusques aux petis nerfs, arteres, & petites costes, qui sont esparses dedans les feuilles, quelque petitesse qu'elles ayent que l'ouvrier n'ayt observé en sa insculpture'. *Architecture et ordonnance de la grotte rustique de Monseigneur le duc de Montmorency* (La Rochelle: 1563) in *Oeuvres complètes* 68.

⁷³ See especially Park and Pomata on the development of scholarly observation practices in Daston, L. - Lunbeck, E. (eds) *Histories of Scientific Observation*.

⁷⁴ For theorisations of emotions in space, see A. Reckwitz, "Affective spaces: a praxeological outlook", *Rethinking History* 16, 2 (2012) 241–258.

⁷⁵ 'Laquelle grotte m'a rendu tout esbahy... il n'y a homme qui ne fust estonné de les veoir ... Mais tu entendras mieulx la beaulté quand je t'auray discoursu le surplus'. *Architecture; Oeuvres complètes* 62, 63, 64.

⁷⁶ Randall, "Structuring Protestant Scriptural Space", 343. On the literary and spiritual references of his garden, see also G. Polizzi, "L'intégration du modèle: le Poliphile et le discours du jardin dans le *Recepte Veritable*", and Lestringant, "L'Eden et les ténèbres extérieures", in *Actes du Colloque Bernard Palissy, 1510-1590* 65-92 and 119-130; Amico, *Bernard Palissy*.

drip-fed to receptive participants via its cold and damp walls.

Aesthetic qualities were also foregrounded as vital components of Palissy's other ceramic works. A large dish, perhaps like the rustic dish in the form of a pod now held at the Musée de Beaux-Arts in Lyon (Fig. 1), is described in equally glowing terms in his 1563 *Recepte veritable par laquelle tous les hommes de la France pourront apprendre à multiplier et augmenter leurs thresors*. Palissy recalls that

the late King Henri, and the Cardinal of Lorraine attested ... that they had seen the greatest works and the most beautiful things in all the world, but they had never seen anything like mine.⁷⁷

What the king found beautiful was of course at one level what Palissy had produced *as matter*, but what he had created was simply, he argued, what God had opened his eyes to contemplate through feeling *about matter*. The Lyon dish, one of the few that can be firmly attributed to Palissy, shaped as a life-giving seed pod, offers Palissy's intimate revelation of nature to a wider audience, primarily, it seems, a courtly circle of patrons of the arts.⁷⁸ It formed a technology for his didactic mission - as were his publications and lectures - that combined reptiles, fish and crustaceans across the dish on the moss-covered rocks and ferns, employing symmetry to locate the elements of nature in symbolic balance.⁷⁹ Palissy believed 'the abundance of the sea was greater than that of the earth, and that without comparison it produced more fruit'.⁸⁰ Filling the dish with water produced a further dynamism to the work, the viewer using the generative properties of water to set the natural world to be found in the pod-shaped

⁷⁷ 'le feu Roy Henri, & monsieur le Cardinal de Lorraine attestarent ... qu'ils avoient veu des plus grands oeuvres, & des plus belles choses au monde, mais qu'il n'avoient jamais veu oeuvre semblable au mien'. "A Monseigneur le duc de Montmorancy", *Architecture; Oeuvres complètes* 53.

⁷⁸ A plaster mould in the shape of a pod was found among the remains of Palissy's workshop. Inv piece 24087. *Bernard Palissy. Mythe et réalité* 83.

⁷⁹ See Poulain, "Les rustiques figulines".

⁸⁰ 'la luxure de la mer, estoit plus grande, que celle de la terre, et que sans comparaison, elle produit plus de fruit'. *Recepte; Oeuvres complètes* 226.

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cradle in motion, permitting a concrete visualization and contemplation of the process by which God had set in motion the natural world. Materialising his ideas in this form, Palissy gave recipients quite literally the seeds for understanding divine nature.

Significantly, the beauty of nature was rendered with mimetic precision through cast modelling techniques that Palissy developed. Feeling with nature was thus a sensory as well as emotional process.⁸¹ Among the remains of his Tuileries workshops have been found casts of vipers, grass snakes, frogs, tortoises and lizards as well as a complete cast of a large wasp.⁸² And, even in creating his renderings of nature from life casts Palissy was considering the emotions of his animal subjects. In the cabinets attached to his imaginary garden, Palissy wanted fauna to find itself familiar in his beautiful creations. He hoped ‘other lizards and snakes in nature will come often to admire them’.⁸³ Admiration for the material and spatial productions that God had enabled did not begin and end with Palissy’s wealthy patrons but extended to appreciation from the very fauna that are represented there.

The striking appearance and beauty of these ‘knowledge matter’ works, emotionally compelling for their viewers, were integral aspects of Palissy’s didactic mission. It was a multisensory engagement with:

all the beauty of the garden ... they will see entirely all the beauty of the garden, and what it will do: Also they will have the scent of cowslips, violets, marjoram, basil and other such species of herbs ... planted in earthenware vases enamelled in different colours ... [that] will greatly decorate and adorn the beauty of the garden and gallery.⁸⁴

⁸¹ Shell, “Casting Life”, 37: ‘His ceramic wares, as well as his exhibit scenarios, exemplify a model for learning through sensing — as well as knowing through making — in three dimensions.’

⁸² See *Bernard Palissy. Mythe et réalité*, 90-1. See also Smith, P.H. - T. Beentjes, “Nature and Art, Making and Knowing: Reconstructing Sixteenth-Century Life Casting Techniques”, *Renaissance Quarterly* 63 (2010) 128-179 and Smith, “Between Nature and Art: Casting from Life in Sixteenth-Century Europe”, in Hallam, E. - Ingold, T. (eds) *Making and Growing: Anthropological Studies of Organisms and Artefacts* (Aldershot: 2014) 45-63.

⁸³ ‘les autres lizers naturels et serpents, les viendront souvent admirer’. *Recepte; Oeuvres complètes* 169.

⁸⁴ ‘toute la beauté du jardin ... ils verront entierement toute la beauté du jardin, et ce que s’y fera: Aussi ils auront la senteur de certains damas, violettes, marjolaines, basilics, et autres telles especes d’herbes

Through vibrant forms that stimulated viewers' senses, souls and their intellect, Palissy's work aimed to reveal the truth and power of God over the natural world that he had set into motion. 'When I contemplate the different works and beautiful order that God has placed on earth, I am completely amazed at the pride of men.'⁸⁵

Conclusions: Alone with nature

Palissy's practice cannot be considered as contemporary natural history. Palissy, the ceramic artisan, did not participate in the contemporary scholarly community of his time as a result of his occupational status and his confession, but also of his practices. His knowledge was not produced by a practice and in technologies that systematized a specific cognitive practice of observation common to contemporary naturalists. Instead he contemplated God's power in nature through an affective and sensory framework of cumulative experiences and technologies of matter, a practice that limited its interaction with his naturalist counterparts and that resisted integration with the epistemology of his time. Palissy's explicitly articulated emotional states have been hiding in plain sight, often reproduced by scholars without comment to their possible significance for his knowledge practice. Palissy may well have felt alone with nature, for the kind of community of like-minded Protestant scholars with whom sought affinity would not emerge until the next generation and across the Channel.

... plantées dedans certains vases de terre, esmaillez de diverse couleurs, ... [qui] decoreront et orneront grandement la beauté du jardin et gallerie'. Ibid. 180.

⁸⁵ "Quand j'ay contemplé les diverses euvres & le bel ordre que Dieu a mis en la terre, je me suis tout esmerveillé de l'outrecuidance des hommes". "Traité des Métaux et alchimie", *Discours; Oeuvres complètes* 341-2.

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