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1841

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Carpenter, Victoria ORCID logoORCID:  
<https://orcid.org/0000-0003-3880-6555> (2011) Temporal  
Permutations in Octavio Paz's 'Piedra de sol'. In: Carpenter, Victoria  
ORCID logoORCID: <https://orcid.org/0000-0003-3880-6555>, (ed.) A  
World in Words, A Life in Texts: Revisiting Latin American Cultural  
Heritage. Peter Lang, pp. 137-160

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hide them from the eyes of the heathen. It came to the surface in 1551, and was reinterred in the year 1558 by order of the Archbishop Montufar, who was greatly shocked at sight of the heathen emblems. After the second interment it was entirely forgotten' until 1790, when it was unearthed during building works in front of the Cathedral in the Zócalo.<sup>25</sup> Blake describes in detail the carvings on the stone and what they represent, going inwards to the centre. The theme of death is all-pervading in the calendar, starting with the first circle, whose original symbol was 'One Rabbit'. This symbol was deemed too dangerous because of a great number of deaths that year, and a new symbol, 'Two Reed', was used instead. The second circle 'contains four parallelograms, indicating in Aztec mythology that the sun had died four times' (Blake 1906: 4). Thirteen-year cycles were presented in four types of years: Tochtli (Rabbit), Acatl (Reed), Tecpatl (Flint), and Calli (House).<sup>26</sup> The next circle contains the following images: 'Beginning at Dawn, to the left of the point of the arrowhead, we read to the left: Dawn, Wind, House, Lizard, Serpent, Death, Deer, Rabbit, Water, Dog, Monkey, Herb, Reed, Ocelotl, Eagle, Buzzard, Path of the Sun, Flint Knife, Rain and Flower.'<sup>27</sup> Of these, wind, house, death, water, herb, (path of the) sun, rain and flower appear in 'Piedra de sol'. These repetitions will be examined in the context of relationships between timeplanes.

Now we will focus upon the multiplicity of the poem's temporalities from a different theoretical standpoint, namely, string theory and membrane theory. String theory states that on the subatomic level 'there is only one fundamental ingredient – the string – and the wealth of particle species simply reflects the different vibrational patterns that a string can execute. [...] [T]he different vibrational patterns in string theory correspond to different kinds of particles. [...] [T]he single species of string can account for a great variety of particles because the string can execute a great variety of vibrational patterns.'<sup>28</sup> Similarly, Paz's poem may be seen as a collection of

25 Blake, 3.

26 Blake, 10.

27 Blake, 5.

28 Greene 2004: 347.

a large number of text fragments. It is possible that there is one underlying text, whose 'vibrations', or variations, appear in the main text as individual sections. These were identified, for example, by John Fein as representing various sections of the Sunstone calendar.<sup>29</sup>

In 1995, Edward Witten, drawing upon the work of many string theorists, came up with M-theory, which encompassed all five variations of the original string theory. As Greene succinctly puts it, 'M-theory links together and embraces equally all five string theories by showing that each is part of a grander theoretical synthesis.'<sup>30</sup> Although still not completely – if at all – understood, M-theory acts as a translation of the complexities of the five string theories into a single, simpler, understanding.

The introduction of M-theory started the second superstring revolution, and scientists focused on the nature of the eleven spacetime dimensions (ten spatial dimensions plus time) involved in the theory. Inevitably, the questions about the nature of strings arose, with increasing doubts over strings actually being *strings* and not anything else. Witten's later findings suggested that there may be two- or more-dimensional objects involved in M-theory. These objects were termed 'membranes', or 'branes', according to physicist Joe Polchinski, who first proposed the existence of branes as 'essential to string theory.'<sup>31</sup> Polchinski suggests that there are several types of branes reflecting the number of dimensions they cover: from 'two-branes' (two-dimensional membranes), to quaintly named 'p-branes' (p-dimensional membranes, where p is a whole number less than 10); however, it was unclear whether branes and strings are one and the same, or whether branes are made of strings, or whether they are two separate entities.<sup>32</sup> The latest implication of M-theory is that 'the grand expanse of the cosmos [...] may itself be nothing but an enormous brane.'<sup>33</sup> In the context of literary analysis, a text can be construed as a brane, so we will use the term 'textbrane'. And the interaction of these branes will produce

29 See Fein 1986: 16.

30 Greene, 379.

31 Randall 2005: 51.

32 See Greene, 488.

33 Greene, 386.