

*Splendour of the Heavens on SATURN in Natterjack, Notebook VI.B.4*

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A short list of notes on Saturn recorded in *Natterjack*, notebook VI.B.4, pages 319(d-i) to 320(e), has already been documented by Danis Rose<sup>1</sup>. Joyce harvested the index from *The Encyclopaedia Britannica*, 11th edition, vol XXIV: *Saint-Claire Deville to Shuttle*. The article deals with the mythological and historical aspects of *Saturn* or *Saturnus*, the god of ancient Italy and the Roman festival of the Saturnalia dedicated to him. The Romans later identified Saturnus with the Greek god, Cronus.

A bigger cluster of notes, on pages 288-290, refer also to *Saturn*. This list was taken from Hutchinson's *Splendour of the Heavens; a Popular Authoritative Astronomy*.<sup>2</sup> As the title suggests, Joyce's entries summarise some of the planet's characteristics viewed from an astronomical point of view and its relation to the other six 'planets of the ancients' (SH 83). The notes originate mainly in the chapter *Saturn*, written by P. H. Hepburn, who was the director of the Saturn section of the British Astronomical Association. Assuming that Joyce followed the normal way of filling in the notes from the beginning of the notebook working his way to its end, *Splendour of the Heavens* might be the source that aroused Joyce's curiosity to further explore the subject. Hence the later notes from *The Encyclopaedia Britannica*. If this was not the case, then the godly facet of Saturn documented in the *Encyclopaedia Britannica*'s article was the spark that led to Joyce's reading about Saturn's 'unique set of appendages' (SH 11), its concentric rings. Which came first we may never know.

From *Splendour of the Heavens* Joyce chose for immediate use three entries: 'bulk to bulk', 'Pheobe retrograde' and 'albedo'. He reworked them into: 'in retrophœbia, beck from bulk' (FW 415.10-11) and in 'albedinous' to form 'albedinous and oldbuoyant' (FW 414.36-415.01). Together with 'the ra, the ra the ra, the ra, langsome heels and langsome toesies' (FW 415.11-12) (MS Yale 9.6-3, JJA 57:343), a reminder of the incantations brought to the Egyptian Sun-God Ra, Joyce added the new pieces of text to the revisions of *The Ondt and the Grasshopper* in April 1929.

In late 1931 beginning of 1932 Joyce returned to the Saturn notes. He chose: '30 years', 'lithium' and 'gasometer'. He used the entries in a long insertion for Book I, chapter 6. In addition to 'globeful'—'globe' in Hutchinson's text—and 'equator' ('equatorial' in the source), Joyce used 'god at top of / staircase' (VI.B.4.168(b)) that he had jotted down from E. A. Wallis Budge's *The Book of the Dead*<sup>3</sup>:

That the god in the shrine is Osiris is beyond doubt, for he occupies the position at the top of the staircase which in later days gained for Osiris the title of "the god at the top of the staircase;" (BD xxxv)

The “god at the top of the staircase” and the entries from *Splendour of the Heavens* helped Joyce add to the ‘multiplicities’ of HCE’s personalities. They suggest the carrion’s perpetual journey through life and his rebirth as Osiris and Saturn:

god at the top of the staircase, carrion on the mat of ~~grass~~ ^+straw+^; his striped ~~trousers~~ ^+pantaloons+^, his rather strange walk; *hereditatis columna erecta, hagian chiton araphon*; nods a nap for the nonce but crows cheerio when they get ~~eeconomical~~ ^+ecunemical+^; is a simultaneous equator of ^+elimbinated+^ ~~integers~~ ^+integras+^ when three upon one is by inspection improper; he’s as globeful as a gasometer of lithium and luridity and ~~it~~ ^+he+^ was ~~thirty~~ ^+thrice ten+^ anular years before he ~~got~~ ^+walloped ^+wallowed+^^ round Raggiant Circos; we go into him sleepy children, we come out of him strucklers for life;

(MS 47475-234, JJA 47:267)

In the final version of *Finnegans Wake* both additions to *The Ondt and the Grasshopper* and *First Edition* remained unchanged.

There is a possibility that the material we identified was published elsewhere, perhaps in a magazine, but the close correlation with most of the notebook entries indicates that this was the source of Joyce’s notes, or the source of the source.

All the material used by Joyce has been annotated<sup>1</sup>. Extra information for the reader of *Finnegans Wake* is provided by the quotes from *Splendour of the Heavens*. The identifying of Hutchinson’s book also helped to clarify ‘Gud ud Mercury’ (VI.B.4.288(d)) that was previously misread.

The unused notes were copied into notebook VI.C.15 pp. 150-151. None of these were used.

## References

1. *The James Joyce Digital Archive* at: <https://jjda.ie/main/JJDA/JJDAhome.htm>
2. Hutchinson’s *Splendour of the Heavens; a Popular Authoritative Astronomy*. Vol. I. Theodore Evelyn Reece Phillips and William Herbert Stevenson Eds. London: Hutchinson & Co., 1923. Online at: <https://archive.org/details/hutchinsonssplen01philuoft/page/n7/mode/2up>
3. E. A. Wallis Budge. *The Book of the Dead*. 2<sup>nd</sup> ed. London: Rutledge & Kegan Paul, Ltd., 1909. Online at: <https://archive.org/details/in.ernet.dli.2015.281290/page/n1/mode/2up>



## VI.B.04.288

### (a) Saturn >

*Note:* Header underlined in black crayon.

VI.C.15.150(b)

### (b) **globe tumours**

?SH 11: SATURN.

The planet **Saturn** is distinguished by the possession of a unique set of appendages, which take the form of several concentric rings. There is nothing else quite like them in the Heavens. They are known to be composed of myriads of separate particles whose exact size is not known. Two, at least, of the rings are partly transparent and stars have been seen through them as through a veil. The black circular line in the picture represents a permanent fissure or gap between the two main rings. Like Jupiter, the **globe** of Saturn occasionally betrays internal **tumults** by eruption of spots.

?SH 357: In many respects Saturn presents well marked analogies to Jupiter. In each case we have a vast globe, flattened at the poles, and in very rapid rotation. Saturn is but little less in diameter than Jupiter, and somewhat more bulging at the equator.

VI.C.15.150(c)

### (c) **1/100 of [on] light**

SH 79: The giant planets receive a very small **amount of light** and heat : Jupiter one-twenty-fifth, Saturn **one-hundredth**, Uranus one-four-hundredth, Neptune one-nine-hundredth.

VI.C.15.150(d)

(d) **(Gud ud Mercury)**

SH 83-4: The seven planets of the ancients, which have been known from prehistoric times, included the Sun and Moon, Mars, **Mercury**, Jupiter, Venus, Saturn, and gave their names in this order to the days of the week, as we still see in the French names for these days. The English names are taken from Saxon deities, Tiw, Odin, Thor, and Friga ; the other three days can be immediately identified. The discovery of Mercury is particularly credit able to the old observers ; for even when we know where to look, it is always seen low down [83] in the twilight ; but it was very assiduously observed, and Fathers Epping and Strassmaier found it mentioned more often than any other planet in the Babylonian tablets, under the name of Guttu or **Gud ud**.

VI.C.15.150(e)

(e) **r30 years**

SH 357: Passing beyond Jupiter, the next planet in order from the Sun, and at nearly twice the distance, is Saturn. This is the most distant of those planets that are readily visible to the naked eye, and (as a rule) the faintest in lustre, besides being the slowest in apparent as well as real movement round the Sun. **Jupiter takes nearly twelve years to complete its circuit of the heavens ; Saturn nearly thirty.**

MS 47475-234, ScrTsIns: ^+he's as globeful as a gasometer of lithium and luridity and ~~it~~ ^+he+^ was ~~thirty~~ ^+thrice ten+^ anular years before he got ^+wallofed ^+wallowed+^^ round Raggiant Circos;+^ | JJA 47:267 | late 1931-late 1932 | I.6§1.6+/2.4+/3.9+/4.5+ | FW 131.36

(f) **light <lea/n/d> la/n/d**

Note: The second unit above could possibly be a badly written 'lead'.

?SH 357: The ancients recognised that Saturn was the most distant planet known to them. They endowed him, in the jargon of Astrology, with the attributes we still speak of as "Saturnine" ; dulness, sluggishness and morose malevolence. For his symbol they chose the lustreless and heavy metal **lead**. The contrast with the reality is striking. Far from being heavy and leadlike, Saturn is the **lightest** in substance among the planets. Instead of sluggishness being his attribute, we find his surface conditions even more turbulent than those of Jupiter, while the telescope discloses this dull and lustreless planet as perhaps the most purely beautiful object in inanimate nature.

VI.C.15.150(f)

(g) **1/8 dense E**

SH 359: The relation between the figures for diameter and mass brings us to the most striking physical characteristic of the planet, the exceeding lightness of his substance. For if the diameter of Saturn were exactly nine and a half times the Earth's, the volume of Saturn would be 850 times the Earth's (the actual figure is about 760 times) and if the two planets were made of matter of the same density, the mass as well as the volume of Saturn would exceed the Earth's in the same proportion. But the mass of Saturn is only ninety-five times that of the Earth instead of 760 times, so that the stuff of which Saturn is made is only about **one-eighth as dense as the Earth's** substance.

VI.C.15.150(g)

(h) **lithium >**

MS 47475-234, ScrTsIns: ^+he's as globeful as a gasometer of lithium and luridity and ~~it~~ ^+he+^ was ~~thirty~~ ^+thrice ten+^ anular years before he got ^+wallofed ^+wallowed+^^ round Raggiant Circos;+^ | JJA 47:267 | late 1931-late 1932 | I.6§1.6+/2.4+/3.9+/4.5+ | FW 131.36

(i) **pumice >>**

VI.C.15.150(h)

**VI.B.04.289**

(a) **snowball >**

VI.C.15.150(i)

(b) **unpacked**

*SH* 360: Saturn is, in fact, about thirty per cent, lighter than water, and indeed it is lighter than any known solid except the rare metal **lithium**. Of ordinary earth-stuff we find nothing that is so light as Saturn, not even the spongy rock called **pumice** which floats on water. The only familiar solid inorganic substance that is less dense than the substance of Saturn is new-fallen, **unpacked** snow, and a **snowball** not too tightly squeezed might be made to approximate pretty closely to the average consistency of this planet.

VI.C.15.150(j)

(c) **gasometer** >

MS 47475-234, ScrTsIns: ^+he's as globeful as a gasometer of lithium and luridity and ~~it~~ ^+he+^ was ~~thirty~~ ^+thrice ten+^ anular years before he got ^+wallofed ^+wallowed+^+^ round Raggiant Circos;+^ | *JJA* 47:267 | late 1931-late 1932 | I.6§1.6+/2.4+/3.9+/4.5+ | *FW* 131.36

(d) **bulk to bulk** >

MS Yale 9.6-3, ScrTsTMA: ^+in retrophœbia, ~~back~~ ^+beck+^ from bulk,+^ | *JJA* 57:343 | Apr 1929 | III§1C.4 | *FW* 415.10-1

(e) **equatorial bulge**

*SH* 360: This state of things presents a great puzzle. Of what sort of stuff can Saturn be made ? No really satisfactory answer has ever been given to this question, which indeed has hardly been seriously tackled. The most generally accepted explanation is that in great part, at all events, Saturn is not solid at all, but a heated **mass of gas**. On this hypothesis the planet is, in fact, sunlike, though not so fiercely hot as the Sun, and what we see is the upper surface of the non-luminous vapours floating above the incandescent **gaseous** interior. The behaviour of the satellites lends support to the suggestion that a considerable part of the mass of Saturn is strongly condensed towards his centre. If this is the true explanation, we would like to know, in addition, why Saturn is so considerably lighter, **bulk for bulk**, than Jupiter, to whom similar considerations must be supposed to apply. Jupiter is twice as dense as Saturn.

The relation between speed of rotation and **equatorial bulge** is significant in this connection.

VI.C.15.150(k)

(f) **spotted**

*SH* 361: As in the case of Jupiter, this visible surface is diversified by shifting belts and occasionally by **spots**. Since, however, Saturn, owing to his greater distance from the Sun, is much less strongly illuminated than Jupiter, and owing to his greater distance from the Earth is seen on a considerably smaller scale, very little detail can be made out beyond the broadest general outlines. In fact, on only about half a dozen occasions have **spots** been seen which could be "held" by observers of ordinary acuteness of vision so as to enable the rotation period of the planet to be determined.

VI.C.15.150(l)

(g) **Phoebe retrograde**

*SH* 363: When the motion of **Phoebe** was studied by its discoverer, a surprise developed. He found that this motion was "**retrograde**," and therefore in contrary direction to those of the inner satellites and of the planet's own rotation.

MS Yale 9.6-3, ScrTsTMA: ^+in retrophœbia, ~~back~~ ^+beck+^ from bulk,+^ | *JJA* 57:343 | Apr 1929 | III§1C.4 | *FW* 415.10

(h) **primary**

*SH* 363: From the regular variations of light of some, if not all, of the satellites of Saturn, it is believed that they always turn the same face to their **primary**, as does our own Moon.

VI.C.15.151(a)

(i) **albedo**

*SH* 363: There is reason to believe that some of the smaller satellites of Saturn, or at any rate Mimas the nearest, are even lighter in substance than the planet itself. They are also remarkable for their high "**albedo**" or whiteness [...] which would seem to be comparable with that of snow.

## VI.B.04.290

### (a) **Cassini**

*SH 363:* A good three-inch telescope shows in addition a fine black line traced round the surface of the ring, suggesting that there are, in fact, not one but two rings, one within the other. **Cassini** in the Seventeenth Century was the first to call attention to this line and it is called after him “Cassini’s Division.”

VI.C.15.151(b)

### (b) **crape ring**

*SH 364:* Within ring B is a third ring of fairylike delicacy, and transparent, so that the edge of the planet can be seen through it.[...] It is called ring C, or, from its filmy transparency, the “**crape ring**.”

VI.C.15.151(c)

### (c) **stars oculted / shine thr[o] ring**

*SH 369:* On two recent occasions when Saturn in his motion has “**oculted**” or passed in front of faint telescopic stars, such **stars** have been seen **shining through the substance of the rings**. On the earlier occasion (February 9, 1917) the **star escaped occultation by ring B, but was clearly seen shining through ring A**.

VI.C.15.151(d),(e)

### (d) **cirrus / mares tails**

*SH 370:* the ring may perhaps be of analogous constitution to that of the high filmy clouds composed of minute ice crystals which we call **cirrus** or “**Mare’s Tails**.”

VI.C.15.151(f),(g)