

How shall a man in such state appear on the Day of Resurrection? the worthy Abbot demands. Even the "saddle nose" so characteristic of the tertiary stages of the disease was recognised in association with sexual licence in the eleventh century. The recent studies of Karl Sudhoff and Philipp Hildebrand seem to me to demonstrate that syphilis existed in Europe, if not in the pandemic form of the fifteenth century, still in not very infrequent cases from the early Middle Ages onwards.

Sir Arthur writes that the "very able medical men who examined the king's skull and bones" had no suspicion in their minds of syphilis. Possibly not; their report is very inadequate, and they held probably the orthodox view, like Sir Arthur, that syphilis was unknown in Europe before the time of Columbus. But these same medical men did direct attention to the condition of the upper jaw, and to the exfoliated wound on the right side of the sagittal suture, and endeavoured to give explanations of them. These explanations may be correct, but there is the awkward fact that Bruce is said to have died of "leprosy" still unaccounted for.

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IN his interesting letter Prof. Pearson discusses two questions: (1) Did Europeans suffer from syphilis before the return of Columbus from America? (2) Does the skull cast of Robert Bruce give any indication that the king suffered from syphilis? I can see nothing in the skull cast symptomatic of this disease; the points mentioned by Prof. Pearson are not in my opinion indicative of syphilis.

If syphilis had existed among the Romano-Britons or Saxons, I should have met traces of it by now. There was no syphilis in ancient Egypt; of the many thousands of skulls and bones which have been examined, not one showed the unmistakable lesions of syphilis. I confess that the rise and spread of syphilis in Europe during the sixteenth century is an enigma. It can scarcely have come from America, for syphilis has not been seen in graves of a pre-Columbian date. Lately it has been announced that the lama of South America has been found to be highly susceptible to syphilis. Is it possible that syphilis was not evolved as a disease of the human body?

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A Peculiarity of some Red Neon Lines.

The neon discharge lamps recently introduced by Messrs. Adam Hilger for spectroscopic purposes are so convenient that they are likely to be widely used. It may, therefore, be worth while to direct attention to a peculiarity of some lines of their spectrum. In the course of work with a Fabry-Perot etalon, two of the lines appeared to be doublets—in particular, the strong red line $\lambda 6402$, and less noticeably $\lambda 6143$. By immersing the lamp in liquid air the effect was accentuated and also made to appear in the line $\lambda 6334$.

Reference to the literature of the subject showed that some disagreement exists as to the wave-length of the line 6402 , e.g.

Meissner	6402.246 Å.
Burns, Meggers, Merrill	6402.245 Å.
Takamine	6402.2392 Å.
Priest	6402.2395 Å.

Further, it was found that this line, together with a number of others, had been recorded as reversed by Meissner (*Ann. der Phys.*, 51, 1916) using a Fabry-Perot interferometer, and also by Perard (*Comptes*

rendus, 1923), who deduced the reversal from the visibility of the fringes seen with a Michelson interferometer. Meissner interpreted the appearance as a reversal rather than as a doubling, since it seemed to vary with the thickness of gas traversed by the light. Reference to the Paschen series scheme for the neon spectrum reveals that all the affected lines are there classified as $1.5S_m - 2p_n$; that is, they belong to the principal series, as we should expect if the effect is a genuine reversal. It seems, however, from the work of Hertz on the excitation potentials of neon (*Zeits. für Phys.*, 22, 1924) that a better classification would be $2S_m - 2p_n$, with the quantum number 2 associated with the S_m states. Such a classification implies that it is absorption by excited neon which causes the reversal; this is borne out by some recent quantitative measurements by Meissner (*Ann. der Phys.*, Jan. 1925) and the results of Buisson and Jausseran (*Comptes rendus*, Feb. 1925). It thus seems scarcely possible to doubt that the lines are genuinely reversed, but it is surprising that with $\lambda 6402$ the effect should be seen in a transverse view of a narrow capillary, as I have found to be the case.

The practical importance of the matter lies in the fact that the lines in question are rendered by this behaviour unsuitable for use as standards in work of the highest precision, since the effective wave-length is liable to vary with the experimental conditions. In cases where the resolving power is adequate to show the reversal clearly, the wave-length of the reversal could no doubt be safely used as a standard. For the wave-length of the reversal of $\lambda 6402$ I find 6402.251 ± 0.001 Å.

The presence of the reversal and its remarkable fineness makes the line $\lambda 6402$ especially valuable as a convenient "test line" for etalon adjustment. A 1 cm. etalon should just show it.

A list of the lines found by Meissner to be most affected is appended. It is unfortunate that it comprises most of the strong lines in the red and yellow regions.

Intensity.	Wave-length.	Absorption.
25	5944 Å.	56
45	6143	62
20	6266	49
35	6334	56
100	6402	74
60	7032	56

Some other lines are also affected, but not sufficiently, it is thought, to render them unreliable as standards.

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The Fate of the Cyst of Monocystis in the Avian Gut.

TEXT-BOOKS do not tell us whether the cyst of *Monocystis* can pass unbroken through the gut of the bird which eats the lumbricid-host.

With the view of elucidating this point, I fed earthworms with wheat to a Rhode Island Red hen for three days; the faeces examined revealed the presence of a few separate pseudonavicellæ and one complete cyst.

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