Q. Jl R. astr. Soc. (1972) **13**, 63–66.

INTRODUCTION

In the academic year 1956–7 I had the privilege of working with Professor Chandrasekhar at the Yerkes Observatory. My consequent perusal of the series of papers which later formed the basis of his book *Hydrodynamic and Hydromagnetic Stability* gave me the notion for the subjoined affectionate parody of Chandrasekhar's somewhat distinctive literary style. I later submitted it as a paper for the *Astrophysical Journal*, of which Chandra was Managing Editor, and, although it did not attain the honour of publication in that august periodical, it appeared as a 'reprint from *Ap.J.*' on the initiative (and at the expense) of his then post-graduate and post-doctoral associates.

The journals listed in the References are all genuine ones, which I equipped with arbitrarily selected volume and page numbers. These were also assigned to the reprint itself, a fact which I devoutly hope will cause no confusion to documentalists of the future when the real Volume 237 of the *Astrophysical Journal* stands up.

I have been in several gatherings of astronomers where I was an unknown figure until identified as the author of 'Candlestickmaker', whereupon I became at once hailed as a celebrity. This nova-like behaviour is, I am sure, really no more than a reflection of Chandra's enduring popularity with all who have been his colleagues.

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On the Imperturbability of Elevator Operators. LVII*

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(Communicated by John Sykes; *received October 19, 1910*)

ABSTRACT

In this paper the theory of elevator operators is completed to the extent that is needed in the elementary theory of Field's. It is shown that the matrix of an elevator operator cannot be inverted, no matter how rapid the elevation. An explicit solution is obtained for the case when the occupation number is zero.

*Reprinted as from *The Astrophysical Journal*, Vol. **237**, No. 1211, November 1957.

I. INTRODUCTION

In an earlier paper (Candlestickmaker 1954*q*; this paper will be referred to hereafter as "XXXVIII") the simultaneous effect of a magnetic field, an electric field, a Marshall field, rotation, revolution, translation, and retranslation on the equanimity of an elevator operator has been considered. However, the discussion in that paper was limited to the case when incivility sets in as a stationary pattern of dejection; the alternative possibility of overcivility was not considered. This latter possibility is known to occur when a Marshall field alone is present; and its occurrence has been experimentally demonstrated by Shopwalker and Salesperson (1955) in complete disagreement with the theoretical predictions (Nostradamus 1555). The possibility of the occurrence of overcivility when no Marshall field is present has also been investigated (Candlestickmaker 1954*t*); and it has been shown that with substances such as U and I it cannot occur. It is therefore a matter of some importance that the manner of the onset of incivility be determined. This paper is devoted to this problem.

II. THE REDUCTION TO A TWELFTH-ORDER CHARACTERISTIC VALUE PROBLEM IN CASE OPERATORS A, B, AND C ARE LOOKING IN THE SAME DIRECTION

The notation is more or less the same as in XXXVIII:

Definitions

γ = first occupant,
B_η = second occupant,
g_g = third occupant,
O = operator,
$\mathfrak{M}(O)$ = matrix of operator,
a = acceleration of elevation of the conglomeration,
Ω_{2l} = critical Étage number for the onset of incivility,
$\Omega_{2l2} = \Omega_{2l}/\pi^{11/7}$.

The basic equations of the problem on hand are (cf. XXXVIII, eqs. [429] and [587])

$$\frac{\partial a}{\partial \beta} = \gamma\omega + n\nabla^2 j\,, \tag{1}$$

$$(5+\pi)\, B_\eta = a+b+c\,, \tag{2}$$

$$x = x\,, \tag{3}$$

and

$$g_g + \tfrac{1}{2}mv^2 = \mathrm{I}\,. \tag{4}$$

Using also the relation (Pythagoras, 520)

$$3^2+4^2 = 5^2 , \tag{5}$$

we find, after some lengthy calculations,

$$|\mathfrak{M}| = 0 , \tag{6}$$

which shows that the matrix of the operator cannot be inverted. The required characteristic values Ω_{2l} are the solutions of equation (6). From the magnitude of the numerical work which was already needed for obtaining the solution for the purely rational case (cf. Candlestickmaker and Canna Helpit 1955) we may conclude that a direct solution of the characteristic value problem presented by equation (6) would be downright miraculous. Fortunately, as in XXXVIII, the problem can be solved explicitly in the case when the occupation number is zero. This is admittedly a case which has never occurred within living memory. However, from past experience with problems of this kind one may feel that any solution is better than none.

III. THE EQUATIONS DETERMINING THE MARGIN AT STATE IN THE CASE WHEN THE OCCUPATION NUMBER IS ZERO

For the reasons just given (i.e., because we cannot solve any other problem) we shall restrict ourselves in this paper to a consideration of the case when the occupation number is zero. In this case Ω_{2l} satisfies

$$\log \Omega_{2l} = 1 , \tag{7}$$

the solution of which has been obtained numerically; it is approximately

$$\Omega_{2l} = 2{\cdot}7 . \tag{8}$$

This result shows that the transition to overcivility occurs between the values 2 and 3 given by Giftcourt (1956), respectively, Bookshelf (1956), a result which should be capable of direct experimental confirmation. The author hopes to deal with this problem next Saturday afternoon.

In conclusion, I wish to record my indebtedness to Miss Canna Helpit, who carried out the laborious numerical work involved in deriving equation (8).

The research reported in this paper has in part been suppressed by the Office of Navel Research under Contract A1-tum-OU812 with the Institute for Studied Advances.

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