

# This Week's Citation Classic

Carney M W P, Roth M & Garside R F. The diagnosis of depressive syndromes and the prediction of ECT response. *Brit. J. Psychiat.* 111:659-74, 1965. [Blackpool and Fylde Hosp. Group; Lancaster Moor Hosp.; and Depts. Psychol. Med. and Appl. Psychol., Univ. Newcastle upon Tyne, England]

One hundred twenty-nine depressives, admitted for ECT, were investigated and followed up for three to six months. A factor analysis supported the validity of the endogenous/neurotic distinction. Discriminate function analysis yielded lists of ten features for a) making the differentiation between endogenous and neurotic depressions and b) predicting response to ECT. [The *Science Citation Index*<sup>®</sup> (*SCI*<sup>®</sup>) and the *Social Sciences Citation Index*<sup>®</sup> (*SSCI*<sup>®</sup>) indicate that this paper has been cited over 225 times since 1965.]

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"I first became interested in classifying depressive disorders soon after I entered psychiatry. I have an orthodox medical background and regarded traditional medical ways of making a diagnosis and a prognosis as relevant to psychiatry. It soon struck me that, contrary to the view then prevailing in British psychiatry, depression was not just a unitary condition, varying only in severity, but a heterogeneous state comprising two or more varieties, each needing a different mode of management. One difference was that endogenous depressives tended to respond to ECT whereas reactive/neurotic depressives did not. The advent of the antidepressant drugs and, later, lithium carbonate seemed to heighten the need for a logical classification of predictive value. About this time I started to work with Sir Martin Roth in Newcastle. We were both impressed with the work of Wayne and his colleagues<sup>1</sup> in devising a diagnostic index for the separation of thyrotoxic from euthyroid patients. About this time I read Sir Cyril Burt's *The Factors of the Mind*<sup>2</sup> and profited from the experience of L.C. Kiloh and

Roger Garside, also working in Newcastle, who were applying multivariate statistical methods to the problem of predicting imipramine responders from non-responders. Roth suggested that I investigate the feasibility of dividing a large retrospective series of inpatients treated with ECT at Newcastle General Hospital over the previous three years by means of a list of weighted clinical features, the weights being derived from an intuitive appreciation of their importance in making the separation between endogenous and other forms of depression. On doing this, I found it possible to obtain a good separation between endogenous depressives who did well with ECT and neurotic-type depressives who did poorly. I was thus encouraged to start a prospective investigation of depressed patients admitted to all the major psychiatric units of Newcastle upon Tyne. From the statistical analyses of the results we were able to devise one series of weighted features for the diagnosis of endogenous and neurotic depressions and another for the prediction of response to ECT. The diagnosis index later came to be known as the Newcastle index.

"At that time, Roth's department was seething with research ideas, especially with respect to affective disorders, and a number of studies were proceeding in parallel conducted by (among others) Kiloh, D.W.K. Kay, Tom Fahy, Pamela Beamish, and Claire Gurney.

"I think the paper is so often cited because it applied statistical methods to aid the resolution of a problem of psychiatric taxonomy, produced a small number of weighted features to help the clinician and the researcher in making the differential diagnosis in depression and forecasting response to ECT, and generated a continuing controversy which now seems to be resulting in a consensus that there is an endogenous depression, symptomatically and aetiologically distinct from other depressive disorders. The topic is well reviewed by Matussek *et al.*<sup>3</sup>

1. Crooks J, Murray I P & Wayne E J. Statistical methods applied to the clinical diagnosis of thyrotoxicosis. *Quart. J. Med.* 28:211-34, 1959.
2. But C L. *The factors of the mind; an introduction to factor-analysis in psychology.* London: University of London Press, 1940. 509 p.
3. Matussek P, Söldner M & Nagel D. Identification of the endogenous depressive syndrome based on the symptoms and the characteristics of the course. *Brit. J. Psychiat.* 138:361-72, 1981.