proper double points for nodes. If we project the projected surface upon an S_3, we have an F'^{4n-4} having a double curve of order $8n^2-23n+17$ with $16n-28$ pinch points. If the center of projection is in π, the double curve degenerates into a $(4n-6)$-fold line and $3n-4$ double lines. Since the class of K^{4n-6} is $10n-20$, there are on the $(4n-6)$-fold line $10n-20$ pinch points. The remaining $6n-8$ pinch points are on the $3n-4$ double lines, 2 on each.

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SPINORS AND TENSORS

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It is well known that there are two kinds of quantities connected with the representations of a group of rotations—the *tensors* and the *spinors*.* Since the advent of the relativity theory we had been led to believe, in the words of O. Veblen,† "that any physical phenomena could be described by means of tensors." But then came the Dirac equations of the electron which give an example of a situation described in terms of spinors. Does it mean that we have to change the belief expressed above? It does not follow. All that has happened is that we have a phenomenon not described in terms of tensors; that does not mean that it cannot be so described. That it might be possible to describe every situation given in spinors also in tensors is suggested by the fact that there exist algebraic relations between spinors and tensors; it may be possible to eliminate the spinors from a sufficient number of these algebraic relations and the given spinor differential equations, and obtain in this way an equivalent description in tensors. The discussion of the general case should not be very difficult, but it seemed that a simple special case should be worked out first, and that is why I suggested to Gordon Fuller the problem which he discusses in his article.‡ The problem there is treated without

* Compare, for example, R. Brauer and H. Weyl, American Journal of Mathematics, vol. 40 (1935), p. 425.

† Proceedings of the National Academy of Sciences, vol. 24 (1934), p. 282.

‡ This issue of this Bulletin, vol. 42 (1936), p. 107.