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This paper\*\* is essentially about the production-effect and its fundamental importance in assessing the gains and losses incurred by members of a customs union. There are two basic ingredients in any assessment of the implications that a customs union has for welfare and these are the pre- and post-union patterns of production and tariffs. A customs union involves the extension of the respective members' pre-union geographically discriminatory tariffs so as to cover the union area. In the course of its operation new tariff barriers will be erected and some of the existing ones dropped and these tariff movements will be both a cause and a consequence of changes in the patterns of production of the respective members. How are we then to assess the continuing gains and losses deriving from a customs union?

Almost all of traditional customs union theory has been concerned with the comparison of pre- and post-union situations and with the problem of assessing the gains and losses that emerge immediately, following union. In attempting to assess a customs union's continuing gains and losses we must necessarily adopt a standard which would involve a comparison between what is actually the case for the members, and what would have been the case had the customs union not been formed. The necessity and ultimate desirability for this sort of comparison cannot be evaded. In practice, however, it is extremely difficult if not impossible to carry out.

The analysis and observations presented in the paper can be regarded as primarily Vinerian. In an early work <sup>1)</sup> he distinguished between the trade-creating and trade-diverting forces of customs unions. The former effect involves the entry of a commodity into inter-country trade because inefficient domestic production is displaced by more efficient production of the commodity by another member of the union. The latter effect is present when the customs union tariff enables a member to displace the imports of another member from cheaper outside sources. Trade-creation and trade-diversion are thus concerned with inter-country commodity substitution - the

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\*'Common market' and 'customs unions' are used as synonymous throughout the paper.

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production effect. The presence and strength of these forces are affected by the pre- and post-union patterns of tariffs, production, and trade and the simplifying assumptions made in the course of the analysis. These forces are also to be influenced by the scope of the analysis - whether static, short-run or long-run. In the static frame the production-effects are regarded as affecting the opportunity costs of the goods that are ultimately consumed; in the short-run the same effect is taken as influencing levels of income whereas in the long-run (assuming inter-member mobility of factors) this effect is regarded as determining the location and future rewards of the productive factors themselves and the realization of scale gains.

We are thus concerned not only with actual shifts in production between members brought about by the customs union but also with the influence exercised over future patterns of production and ultimately the location of the productive factors. Before we can generalize the production-effect in this manner we must take into account the so-called consumption-effect which concerns the welfare implications of inter-commodity substitution. It is, however, argued in Part I that the consumption-effect, apart from being empirically negligible, is irrelevant, at any rate for the static model, and that this would affect the general propositions that have been put forward in that context.

The paper concludes on a negative note with little said about the distribution of the continuing gains and losses arising from the East African Common Market institution. On the basis of the observations put forward, the welfare assessments recently provided by others in this context are criticised, the general contention being that since customs union theory concerns a multiplicity of cases and belongs to the realm of the 'second-best' there can be no unambiguous welfare conclusions without an extremely detailed empirical examination.

Finally a few words about welfare. Despite its title, the paper does not directly confront the whole issue of 'welfare' which is a highly complex one; an increase in welfare is assumed to take place when the gains outweigh the losses, whatever may have happened to the income distribution.

## Part I

Do customs unions always lead to an increase in welfare? There is no a priori answer to this question and any general presumptions we may care to have about customs unions leading to an increase in welfare would depend on the assumptions we have made. In the context of Viner's model the following assumptions are made: two commodities, constant rates of transformation, perfect competition in all markets, a constant marginal rate of substitution, an income-distribution which is regarded as ideal and which remains constant, no external economies or diseconomies, and so on. Since there are only two commodities, any welfare conclusions we arrive at must be unambiguous. Either there is an increase in welfare or a reduction. With the other assumptions if we further assume that there is an overlap in the production patterns of the prospective union members then we have both a necessary and sufficient condition for there to be an increase in welfare.

The removal of only two assumptions - that regarding the two commodities so that we now have more, and that regarding constant costs so that we no longer require prohibitive tariffs if we are higher cost countries - would necessitate a modification of these conclusions. Welfare can either increase or decrease unambiguously and whether or not welfare does in fact increase would depend on the given empirical situation. Relaxation of the other assumption would mean that the overlap in production patterns would be a necessary but not a sufficient condition for welfare increases since there is now the possibility for trade-diversion\*.

The theory of customs union is really an exercise in the theory of the second-best. This can be shown even under the highly restrictive assumptions of the three-commodity three-country model and a fortiori when these assumptions are relaxed.

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\*One major difficulty to be contended with in formulating the welfare-creating conditions for a customs union is the very large number of logically possible cases that have to be considered. In the three-country two-commodity model there are 2<sup>3</sup> logically possible cases when only the variations of commodities as exports and imports with respect to each country prior to union are considered, though these reduce ultimately to five cases which are economically significant. In the three-country three-commodity model should the classification adopted be extended so that we are interested as to whether the commodities enter as imports or exports or are not produced, whether or not complementary, whether there are tariffs or not and whether these are prohibitive or not, there would be found 2<sup>7</sup> or 128 possible cases though not all of these are economically meaningful.

Thus assume a three-country model containing three countries, A, B and C with at least three types of commodities: domestic commodities (A), imports from the union partner (B) and imports from the outside world (C).

Abstracting away from transport and other related costs the actual situation from the viewpoint of country A's welfare as to the optimum conditions which have to be fulfilled for her to maximize her welfare (making assumptions some of which are specified below) could be characterized by:

$$\frac{P_{Ad}}{P_{Bd}} = \frac{P_{Ai}}{P_{Bi}}; \frac{P_{Ad}}{P_{Cd}} = \frac{P_{Ai}}{P_{Ci}} \text{ and } \frac{P_{Bd}}{P_{Cd}} = \frac{P_{Bi}}{P_{Ci}} \quad - \quad (1)$$

where the subscripts A, B and C refer to countries of origin, d to prices in A's domestic market, and i to prices in the international market.

These three conditions in effect state the familiar requirement that domestic rates of transformation should equal foreign rates of transformation for trade to be maximized (which would only take place under free trade), and also imply (given certain assumptions) that domestic rates of substitution are equal to domestic rates of transformation and therefore to foreign rates of transformation, so that consumers are in equilibrium on their highest indifference curve at which point their welfare would be maximized.

Should now a uniform ad valorem tariff be imposed by A on imports from both B and C, the following situation would prevail:

$$\frac{P_{Ad}}{P_{Bd}} \neq \frac{P_{Ai}}{P_{Bi}}; \frac{P_{Ad}}{P_{Cd}} \neq \frac{P_{Ai}}{P_{Ci}} \text{ but } \frac{P_{Bd}}{P_{Cd}} = \frac{P_{Bi}}{P_{Ci}} \quad - \quad (2)$$

Abolishment of the tariff with B would then lead to the following:

$$\frac{P_{Ad}}{P_{Bd}} = \frac{P_{Ai}}{P_{Bi}} \text{ but } \frac{P_{Ad}}{P_{Cd}} \neq \frac{P_{Ai}}{P_{Ci}} \text{ and } \frac{P_{Bd}}{P_{Cd}} \neq \frac{P_{Bi}}{P_{Ci}} \quad - \quad (3)$$

A in having moved from the second to the third situation would have moved from one sub-optimal position to another and no unique a priori ranking would be possible.

With regard to the production-effect, both the trade-creating and trade-diverting forces would be involved and with regard to the consumption-effect both welfare-adding and welfare-reducing elements would be present. Only a detailed empirical examination of a given empirical situation would enable us to establish whether or not there has been a gain from A's viewpoint.

Lipsey<sup>2</sup> in his interpretation of these optimum conditions seems to be entirely concerned with the so-called consumption-effect. At any rate the general presumptions he puts forward are wholly based on the existence of this particular effect.

Thus he states "... that a customs union is more likely to raise welfare the lower is the total volume of foreign trade, for the lower is foreign trade, the lower must be purchases from the outside world relative to purchases of domestic commodities" and further "... that, given a country's volume of international trade (his italics) a customs union is more likely to raise welfare the higher is the proportion of trade with the country's union partner and the lower the proportion with the outside world." From these two propositions he concludes "... that the sort of countries who ought to form customs unions are those doing a high proportion of their foreign trade with their union partner, and making a high proportion of their total expenditure on domestic trade". There is, however, little basis for either the general conclusion or the propositions that gave rise to it.

Consider a simple example he uses to illustrate these propositions. Country A, in the pre-union state with an ad valorem tariff on all her imports, whatever their source, purchases only eggs from B and only shoes from C, producing and consuming all other commodities at home. A now forms a customs union with B and her imports of eggs would now be brought into the 'correct' (i.e. one which conforms with the real rate of transformation) price relationship with A's commodities. This by itself tends to increase welfare. On the other hand the correct price ratio between eggs and shoes would be disturbed (A's pre-union ad valorem tariff has no effect on the price ratio) and this would tend by itself to reduce welfare. The bringing of eggs into a correct price relationship with all the other commodities, e.g. bacon, butter, cheese, meat, etc. would lead to a higher gain relative to the loss suffered in distorting the correct price ratio between eggs and shoes (since the price relationship of shoes with all other commodities, e.g. socks, clothes, etc. could not be affected by the union with B). Thus the first proposition. Should the position now be reversed with A producing only shoes, and still importing only eggs from B but everything else from C, the post-union gains derived from establishing the correct price ratio between shoes and eggs would be negligible compared to the losses suffered from distorting the correct price relationship between eggs and all the other commodities. Thus the second proposition.

The fact that the production effect has been ignored makes nonsense of these propositions. Suppose that B while exporting only eggs to A was also producing shoes but less efficiently than C. On forming a customs union with A, B would now be able to export shoes to A and displace A's imports of

shoes from C. A's welfare would suffer a decline, at least to the extent of the tariff revenues she has lost as a consequence of importing from B. The overall result for A's welfare would be difficult to discern and unless we were to make certain extreme assumptions regarding the relative strengths of the production and the consumption effects we would be forced to reject the two propositions, or at any rate modify them so that the production-effect is also taken into account.

It can, however, be argued that in the context of the model assumed so far the consumption effect is irrelevant.

In order to show this we are interested in the following assumptions that are made:

- (1) **No country can influence the prices of the goods in which it trades (assumption of perfect competition in the trade markets).**
- (2) All individuals have identical and unchanging indifference maps with the pattern of income distribution assumed constant (essential if we are to make use of community indifference curves both in the pre- and post-union situations).
- (3) Production possibility curves are characterized by constant transformation rates (a result of assuming linear production functions and the assumption that country A is specializing completely in the production of A).
- (4) Trade is balanced (since we are only interested in static equilibrium positions).
- (5) Consumers adjust their purchases to the relative prices ruling in the domestic markets (with consumers always in equilibrium, with domestic rates of substitution = domestic rates of transformation)

and most important of all

- (6) "... the tariff revenue collected by the Government is either returned to individuals by means of lump sum subsidies or spent by the Government on the same bundle of goods that consumers would have purchased"<sup>2)</sup> (my scoring).

These assumptions taken together render it absurd in the first place for Government to levy any tariff duty<sup>3)</sup> at all. Neither is the duty being levied to improve the country's terms of trade (precluded by assumption 1), nor for changing the pattern of income distribution (assumption 2), nor to protect any domestic industry (assumption 3), nor to reduce an overall import surplus (assumption 4), nor to finance any

real operation (assumption 6). Assumption 6 has an added implication which depends on how the quotation provided is interpreted. There are two possibilities to be considered, both of which involve the extreme assumption that Government's spending behaviour is identical with that of other consumers. Either Government spends as consumers would have spent before the introduction of a tariff or as they would have spent after its introduction. The former is the position taken by Viner who assumed fixed proportionality in the consumption of commodities, irrespective of the changes in the structure of relative prices following the introduction of tariffs, whereas the latter is the position taken by Lipsey and others who assumed (5). If the tariff revenue collected by Government is returned to individuals by means of lump-sum subsidies then assumption (5) would cease to be operative since there would be a tendency on the part of consumers to regard the change in relative prices as entirely spurious. They would then remain at their pre-tariff equilibrium point on their given consumption possibility curve and there would be no consumption effect. The case where Government spends according to consumers' post-tariff valuations seems more plausible but is again similarly artificial since it would be the lump-sum subsidy case in reverse.

We may conclude that Viner's assumption of fixed proportionality in the consumption of commodities is not after all as special as is commonly made out. The consumption-effect would on theoretical grounds be irrelevant at least in the context of the model assumed. This would not, however, involve complete acceptance of Viner's assumption since in making it he also assumed that income changes would exercise no influence on the relative proportions in which commodities were consumed. But this latter assumption is not required since customs union theory as so far considered, is concerned mainly with the price implications of discriminatory tariff policies. Since empirical consumption studies have also shown that changes in relative prices exercise little influence on consumer spending habits we may safely disregard the consumption effect.

What sort of generalization can we now usefully make? If given that the previous arguments are correct, the generalizations would concern the production-effects of customs unions and would be of the following type - "the customs union is more likely to bring gain, the greater is the degree of overlapping between the class of commodities produced under tariff protection in the two countries and that this gain is likely to be larger the more dissimilar were the cost ratios in the two countries." This gives rise to the general conclusion

that a country should only form a customs union with those countries whose patterns of production overlap her own but whose cost ratios are dissimilar. The static world, however, is a world of instantaneous adjustments. The formation of a customs union may in real life lead to a substantial proportion of the total production of the country being transferred to the other member and as a consequence cause severe dislocations in the form of factor unemployment, balance of payments difficulties and so on. This, though, is the penalty to pay for choosing to specialize in that pattern of production for which the country is relatively poorly endowed. Abandonment of that inefficient pattern of production would through the release of badly utilized resources provide at least the potential wherewithal for more profitable patterns of production and resource-utilization.

Certain elements implicit in the above proposition would apply to the case of under-developed countries wishing to form customs unions amongst themselves or with more developed countries and this would concern the future location of production. The proposition may be regarded as stating a necessary condition for gains to take place without being sufficient since the sufficiency conditions would depend on the implications borne by the assumptions implicit in the proposition. The necessary condition could be regarded as holding at all points of time and that consequently not only would a customs union be likely to bring gain the greater is the actual degree of overlap, etc., but also where the potential degree of overlap is greater. The customs union would not only shift the existing sources of production but would also determine the location of future sources of production as to the country in which it is more efficiently produced. In economies of the East African type where stages of development are broadly similar, where markets are extremely small there is a limited range of manufactured commodities that can be produced. If in the absence of a customs union there is a strong presumption that unnecessary and inefficient duplication would have taken place and if the historical operation of the customs union has averted this then gains would have been obtained. Since there would also be some trade-diversion taking place any overall conclusion as to welfare would require a balancing out of these two forces.

The sort of procedure adopted by Ghai<sup>4)</sup> in his assessment of the distribution of the East African Common Market gains and losses would therefore be inadequate. To assess



each member's welfare by comparing the members' within union exports and imports and the respective degrees of protection afforded them, on the assumption that these exports involve trade-creation but these imports, trade-diversion, is attractive in its simplicity. Suppose, however, that the two prospective members of the union started off in a position of balanced trade with each other. If we have net trade-creation then the trade-balance of the members would cease to be in equilibrium since one member would be importing from the other what it formerly produced inefficiently at home. In this case the use of Ghai's criterion would have shown a loss for the member whereas in fact there has been a gain. We cannot assume that imports under a customs union tariff is necessarily trade-diverting, especially amongst under-developed countries where it is not the case that existing, inefficient production is being knocked off, but the case that new patterns of production and their location are being influenced by the customs union (in what one hopes is a more efficient direction than would have been the case had there not been a customs union).

## Part II

The proposition developed in the previous section now requires to be considered in the comparative static framework where short-run income effects would prevail. We shall now argue in favour of the following proposition:

"Granted that the process of development requires increased industrialization on the part of the under-developed economies and that this process would be essentially competitive with the production of the advanced countries themselves, the operation of the production-effect of customs unions would make for easier development (under certain assumptions)."

If we accept that industrial development proceeds largely through import substitution<sup>5)</sup> then we must accept that economies at an early stage of development with very small markets can substitute effectively (i.e. without protective tariffs) only a very limited range of manufactures. The size of the market is one of the most crucial constraints on industrial development, since scale gains are generally precluded by very small markets, with the consequence that where domestic production is competing with imports high levels of protective tariffs are required with a social cost at least equivalent to the tariff revenues lost. The more efficient location of

industries in a customs union and the larger markets involved would prima facie increase the competitiveness of domestic production vis-a-vis imports with the consequence that relatively lower tariff levels would be required, with a reduction in social cost.

We shall consider these arguments in the context of Professor Brown's<sup>5)</sup> model and compare the short-run income-effects of possible, initial, pre- and post-union positions where the essential differences are as to location and tariff levels. But first a few clarificatory remarks. Since we are interested in the short-run we are abstracting from shifts in factors of production as between the union members. Both in the initial and final positions to be compared the stock of productive factors is retained at the initial level. What is of interest is the use made of under or non-utilized productive factors. We shall consider three situations:

- (a) Where under-utilized resources could be used entirely in the production of those commodities which compete effectively with imports or for which there are no imports.
- (b) Where the alternatives in (a) are totally absent with only import-competing commodities capable of being produced.
- (c) Where a pattern of production involving both (a) and (b) is present.

The member countries could be differently situated with respect to (a), (b) and (c) in the customs union and thus subject to differing short-run effects. Given the degree of under-utilization of resources where a member is placed as to (a), (b) or (c) would define the gains to be derived from increased production. Given the similarity in import patterns the customs union would be most important for a member in (b), least important for any member in (a), and of varying importance for members in (c). In practice members would find themselves in (c) with a bias either towards (a) or (b).

Suppose that in country A there is an increase in production (P) which displaces manufactured imports which are subject to an ad valorem union tariff, ( $t_c$ ). The tax free value of the imports displaced will be  $P(1 - t_c)$  assuming that the price of the goods domestically produced equals the import price plus customs duty. Income would be increased in A via the multiplier subject to the marginal propensities to save and import. A's overall marginal propensity to

import is made up of a marginal propensity to import from foreign countries and her marginal propensity to import from the rest of the customs union. The increase in A's imports from the other members will, through an increase in member countries' incomes, increase further imports from A so there would be an added increase in A's income. On the other hand the extra production (P) involves the union in a loss in tariff revenue (Ptc). If we assume that of P, a proportion (x) is retained for domestic consumption in A and (1-x) is exported to the rest of the union the increase in A's income, subject to all these influences, could be written as:

$$Y_a = \frac{m^b r^y b + P(1-xtc)}{a(1-td) + ma}$$

where:

$Y_a$  = change in A's income at factor cost.

The expression (mbryb) refers to that proportion of the increase in the rest of the unions income arising from the production of (P) in A which is spent on additional imports from A.

The expression S(1-td) refers to A's marginal propensity to save less the proportion of the increased savings (td) that are taxed, and assumed spent only on consumption, by A's Government.

And finally (ma) refers to A's overall marginal propensity to import.

Now assume the following values for the parameters in the above equation (taken from Brown in his discussion of the East African case) with (a) referring to Kenya and (b) to the rest:

$$t_d = 0.1; \quad t_c = 0.2$$

$$s = 0.15; \quad x = 0.75$$

$$m_a = 0.30 \quad m_b = 0.35$$

We can ignore (mbr  $Y_b$ ) since the influence it exercises is marginal and since we are interested in isolating the influence (tc) or the ad valorem rate of customs duty on the imports for which P is a substitute, exerts on the creation of income in A. If we now insert these parametric values in the above equation:

$$Y_a = \frac{0.85P}{0.435} = 1.95P$$

Thus the higher the tariff rate required to produce the import substitute P and the lower the proportion of P exported to the other members of the union the smaller will be A's income increase. To take an example, suppose A in the absence of a customs union produced 0.75 P which was all consumed at home

but required a tariff rate twice as high as she would have in the union ( $t_c = 0.4$ ) when producing P. Then:

$$Y_a = \frac{0.45P}{0.435} = 1.03P$$

which would be equivalent to 1.37 P had she produced the whole P under the same conditions. Clearly there would have been a drastic reduction in the increase in A's income following her decision to produce P outside a customs union. Suppose now that no protective tariffs are required to produce P, then the increase in A's income, assuming all the other parametric values, would be:

$$Y_a = \frac{P}{0.435} = 2.3P$$

(Note that A's income would have increased slightly more than the amounts shown to the extent that the induced increases in incomes of the other members (the spread-effect) would have called for more exports from A, i.e. the  $mbrY_b$  bit.

Now consider in the same way country B who instead of importing 0.25P from A decided to produce it at home (assuming that it was a feasible level of production). Suppose that this would have required a higher level of tariff protection ( $t_c = 0.8$ ). Then, assuming the other parametric values remain the same there would be an increase in B's income of:

$$Y_b = \frac{0.05P}{0.485} = 0.1P$$

which would have been equivalent to 0.4P had she produced P under the same conditions. Suppose that B is a higher cost source of supply than A and that B is producing the whole P but would require a higher tariff level ( $t_c = 0.3$ ). Then the income increase enjoyed by the members would have been less than if the production of P had been located in A.

These examples give us some idea of the magnitudes involved in moving from certain pre-union to post-union positions. We can now consider the problem of whether or not we can satisfactorily answer any question such as 'who has gained or lost the most from the historical working of the customs union'? Ideally the question could be answered if we can compare how the economies would have performed in the absence of a customs union with their actual performances in a customs union. But this is essentially a matter of identifying the forces that emerge as a consequence of customs union and estimating their quantitative importance. In any case all we are entitled to do if we accept the reasoning in the paper is to compare the effects of a differing pattern of production a customs union gives rise to, both initially and

over-time, from the pre-union pattern or that pattern which would have prevailed had the customs union not existed. A distinction has to be drawn between changes in the pattern of production as a result of reallocating a given volume of investment to take advantage of the larger protected markets with no shifts in physical resources taking place (the short-run case) and changes in production where there have been shifts in physical resources (the long-run case). Both these aspects are important in giving rise to the so-called "polarization" or "back-wash" phenomena where members of the union, initially more favourably placed in the production of those manufactures requiring protective tariff barriers, take advantage of this in a customs union, and because of more rapid growth attract productive factors from the other members whose rates of growth may thereby be retarded. In attempting to assess the gains and losses that have arisen from the presence of the latter aspect, some way of calculating the economic position in the absence of these shifts in productive factors would be required.

It would be an illegitimate exercise to estimate these gains and losses by making use of a concept of 'shiftable industry' (and not only for the reasons put forward by Professor Newlyn<sup>6</sup>) and making the assessments on the basis of the consequences that would have followed had these industries been located with the other members and not concentrated in any one member. Only if we were to make the extreme assumption that these industries were established through a shift in capital and other factors with a deprivation for these members of their use would the procedure be a legitimate one.

There does not seem to be any presumption, as Professor Brown maintains, that given a marginal propensity to import from the other members higher than a certain critical level and consequently a positive and significant spread-effect, the other members would have gained. While his procedure is perfectly legitimate when used for assessing the 'spread-effects' it has to be used with great care in assessing customs unions gains and losses in the short run. There are two elements involved here and given the level of investment these are related to the nature of the investment possibilities present and the strategy of development pursued. If the given investment data requires higher tariff barriers in the pre-union situation, the lowering of tariff barriers post-union (because of the scale gains to be realised) would

to that extent involve an increase in incomes which increase constitutes a gain for the country in question. The spread-effect would have been present both in the pre- and post-union situations but the gain for the other members would consist in the increase in the spread-effect. In so far as the customs union induced the setting up of those industries which would not have been established otherwise, the appropriate procedure would again be to compare the respective increases in income and the respective spread-effects associated with the two differing patterns of investment, even if the pre-union pattern does not require any protective tariffs. Similar considerations would also apply to those members where customs union based production does not take place or only to a limited extent because of lesser efficiencies, at any rate in those lines of production. If in the absence of a union these members would have produced these goods but under higher tariff barriers, then the shift in location which takes place following union would be regarded as having conferred a gain on these members if the cheapening of the goods now imported outweighs the income losses sustained in having to invest in other and less profitable directions. This would be even more the case if the increase in incomes arising from customs union based development in the other member, over its pre-union possibilities, was to increase the spread-effect. Only in the extreme case where a member has no use for protective tariffs in production would she suffer an unambiguous loss if she were to import substantially from her customs union partner, though this would be reduced to the extent of the increased spread-effects. Losses would also be incurred if the alternative investment possibilities involved much smaller increases in income than the original investment possibilities which are now assumed to have been taken over by the other member. The latter case, however, would help to speed up factor movements towards the more rapidly developing member with ambiguous consequences for the other member.