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Renal Homotransplantation—Some Observations on Recipients and Donors

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Introduction

The reports of the Registry of Human Kidney Transplantation show that the operation is being carried out with increasing frequency. Its medical, surgical and immunological problems are well documented, but attention needs also to be paid to the psychological difficulties of patients in chronic renal failure for whom this operation is recommended. Thus, Kemph (1966), in a study of seven cases has drawn attention to the unconscious hostility shown by some donors to recipients. The present paper is one of a series (Cramond, Court *et al.*, 1967; Cramond, Knight *et al.*, 1967; MacNamara, 1967) in which the psychiatric contribution to a renal unit and the criteria used in donor-selection have been discussed, as well as some of the psycho-social problems arising in connection with the work of the unit. It is now proposed to deal with some psychological, social and economic problems which recipients meet during rehabilitation, and the ambivalent dependency that may develop between recipient and donor. Although only a short series of cases has been studied so far, an awareness of this interaction will help to establish better criteria for future donor selection.

Clinical Material and Methods

To date, nine kidney grafts involving eight pairs of recipients and living donors have been carried out in Adelaide (March 1967). One patient had a successful cadaver graft following the failure of a live homotransplantation.

Table I

Second Report of Registry of Human Kidney Transplantation

Summary of human kidney transplants according to date (number surviving on 15/3/64 in parentheses).

Total No. of Cases	Prior to 16/3/61	16/3/61 –15/3/62	16/3/62 –15/3/63	16/3/63 –15/3/64
374	69 (12)	23 (8)	60 (17)	222 (108)

Second kidney transplants in 17 patients.

Table II

Fourth Report of Registry of Human Kidney Transplantation

Summary of human kidney transplants according to date and number functioning (in parentheses) on 15/3/65.

Total No. of Cases	Prior to 16/3/63	16/3/63 –15/3/64	16/3/64 –15/9/64	16/9/64 –15/3/65
672 (268)	153 (32)	239 (89)	132 (62)	148 (85)
Second Transplant 45	3	15 (2)	12 (5)	15 (6)
Third Transplant 2	—	—	—	2 (1)

TABLE III
(At March, 1967)

Sex & Age		Renal Pathology	Relationship to Donor	Cause of Death	Time since Operation	Current Status
M	31	Acute glomerulo-nephritis	Father-in-law	—	25 months	At work
M	45	Chronic glomer-ulonephritis	Friend	—	19 months	At work
F	26	Chronic pyelo-nephritis	Mother	—	17 months	At work
M	22	Acute glomerulo-nephritis	Mother	Uraemia	—	—
F	48	Chronic pyelo-nephritis	Husband (failed) Cadaver	—	11 months	Full home duties
F	16	Congenital nephritis Hypertension	Father	Pneumonia	—	—
M	39	Chronic nephritis	Sister	—	7 months	Half-time work
M	39	Chronic pyelo-nephritis	Aunt	Septicaemia	—	—

Table III shows the outcome of these operations.

All the patients who have been successfully grafted are at work and have resumed their personal responsibilities to a greater or less extent. Recipients were interviewed at length before the operation while still on the recurrent haemodialysis regime. An assessment was made at that time of their personality, ego strengths and preferred pattern of ego defences; the donors were similarly assessed; all have been seen in prolonged follow-up interviews.

To ensure that the post-transplant findings in the recipients were not common to other patients undergoing major surgery, a matched control group of patients who had undergone intracardiac surgery was studied. It was thought that patients who had required such surgery might be comparable, in that life had been endangered and a vital organ operated upon. A random selection was made of cardiac patients, and the group was matched with the kidney transplant recipients for age, sex, race, social class and length of time since the operation. The cardiac patients were interviewed on one occasion only, the interview lasting from sixty to ninety minutes.

Although we have experience of only five pairs of donors and recipients who have survived the operation of renal homotransplantation for at least three months, the detectable psychological themes appear to be of sufficient importance to warrant publication at this stage.

CASE HISTORIES

Recipient A

He is a married Italian immigrant aged 31 years with a family of three, a predominantly cheerful, kindly man who can be openly emotional. He considers that he worries more than the average person, and he frequently has disturbing dreams. He had a successful graft from his father-in-law 25 months ago and has returned to his previous employment in charge of the despatch department of a local winery. Six months after the transplant he had a central retinal vein thrombosis, and four months after this his right eye had to be enucleated. He reacted to this with intense emotion, but this phase was over in two or three weeks.

For the first 14 months after operation he tended to guard the operation site by holding his hand over it or by standing with the injured side turned away when talking to other people. He expressed a fear of being struck on the abdomen and of the kidney being destroyed. In this respect sexual intercourse was "frightening" on the first few occasions following operation, and his libido took some six months to return to normal. He was able to resume full time work after seven months. He feels he has changed in temperament in that he is less materialistic

in his thinking. "Before, I worked hard at my business to improve myself with money, but now money is less important than it was." He denies any feeling of having a second chance in life and of having to make some special contribution. Among his fears in the first few months for which he required and accepted reassurance was the fact that the kidney was 24 years older than he was. He considers that his relationship with his father-in-law donor has become "warmer". He does not see his father-in-law as interfering with his life pattern. He still has anxiety dreams which indicate concern for his future, a concern which is denied consciously and displaced on to an irrational preoccupation that he might lose his job.

Donor A

He is an unsophisticated Italian countryman aged 56, who finds it difficult to express his feelings in words. The only positive finding at interviews before operation was a tendency to mild mood swings. His motivation to be a donor was clear and uncomplicated. He continues to work full time in his market garden, enjoys life, and is aware that to his local community he is a hero. "I saved a life and it is just that I should be so regarded." This was said in a charmingly unaffected way and was not a grandiose remark. He thought that the bond between himself and the recipient was if anything closer, and there was no evidence of ambivalence. So far as can be judged he has been unaffected by his nephrectomy.

Recipient B

A married lady of 48 with a family of two, a stable, well integrated person who tended to introversion and showed some obsessive features. She had dealt with various crisis periods in her life successfully. Her resources included a deep religious conviction and a stable, happy marriage. The graft from her donor husband was rejected, and she then used a manic defence against depression: "Funnily enough I felt rather elated and not depressed. I was upset, though, that my husband's sacrifice had been of no avail." A cadaveric graft was successful, but she then became irritable, particularly with her husband. She had a feeling of distaste, and was unable to touch herself over the site of the graft for a week or two. It appeared that her hostility to her husband at this time arose from the failure of his kidney and her subsequent exposure to a cadaveric graft, the idea of which she found aesthetically unpleasant. She believes her attitude to him has changed in subtle ways. "I can't do enough for him now. I'm not irritable with him, and even when he does things which annoy me I won't complain because, yes, I suppose I am indebted."

She considers that she has been given a second chance in life, and is attempting to do something purposeful with it by becoming active in voluntary work with other kidney patients. She is still very sensitive about the operation site and takes active measures to protect it. Libido, never very powerful, has not returned, although intercourse is occasionally practised for marital reasons.

One feature of note is her preoccupation with food. At present she eats about five or six pounds of chocolates a week in addition to cream cakes. It is not clear whether this is a sexual equivalent or a reaction formation to the preoperative dietary regime. When interviewed eight months after the second graft she seemed to be making a satisfactory adjustment to life and she considered herself 100 per cent. fit.

Donor B

This 51-year-old man, husband of the recipient, had been considered to be a strong, controlled personality, a stable introvert of above average intelligence. Like his wife, he was able to deal with anxiety and problems of living in a religious framework. He did not feel a sense of failure because his kidney had not "taken". "I had at least tried. I felt no guilt or inferiority that my kidney was not good enough." Nine months after his nephrectomy he was symptom-free, active and energetic.

Recipient C

A married man, aged 45, with a family of six, he was thought to have sufficient personality resources to cope with the problems of chronic renal failure, recurrent dialysis and eventual transplantation. He had strong supports from his wife and his church. In the 19 months that have elapsed since operation, he has been predominantly preoccupied with feelings of insecurity. There is a realistic basis for this. To begin with, three weeks after operation there was evidence of graft rejection which he found upsetting. Secondly, on his return home he found that he had been superannuated from his Public Service post during his illness and reinstatement was denied him on his recovery. An unsatisfactory job as a salesman followed. This was given up when he developed nausea and vomiting before he was due to leave for work in the mornings. He has a sense of failure as the family provider, and resents his wife's having to go out to work. He shows considerable dependency needs and occasionally dreams of the hospital situation and all the detailed minute things that were done for him. It was thought that both the morning sickness before going to work and his dreams of the hospital indicated anxiety.

He is still acutely sensitive about the operation site, and in busy streets walks behind his family who act as a screen for him. He finds intercourse "frightening" and the act is carried out solely for his wife's needs; from his point of view "it's not worth it". He considers he is 75 to 80 per cent. fit. He has trouble with symptoms of peripheral neuropathy, and requires reassurance that he will not develop gangrene. Since operation he has put on weight because of increased food intake, and considerable beer drinking, as well as his cortisone medication. Alcohol was a means of easing his tension, both by its direct effects and the fact that it brought him into company. His anxiety leads him to be irritable at home, with subsequent guilt. "I wonder what God wants me to do, but nothing has occurred to me yet except the responsibility of the family."

His relationship with his donor, who had been a superficial acquaintance of his, has intensified. He found that the donor's proprietary interest in him and his life became oppressive. "I would not like to offend him. He's done things that upset my wife and myself and I've swallowed my pride. It's a debt that can't be repaid. We've got to be a lot closer by virtue of what he has done."

This patient, 16 months after the successful graft, was showing clear evidence of anxiety and mild reactive depression. At one point in the interview he wept when discussing the death of one of the recipients. He has a hostile dependency on his donor. He felt that there was no one to whom he could express himself, and would have benefited from supportive psychotherapy.

Donor C

This married man aged 40 has no family. He was, before he made his offer of a kidney, only a superficial acquaintance of the recipient. At interview he was thought to be a quiet, rather tense person who did not readily make deep friendships. He seemed to have unsatisfied emotional needs, and beneath the surface there was good quality which he was not able to use. When seen recently he pronounced himself completely fit; however, some three months before this follow-up interview he had had discomfort at the nephrectomy scar site, which troubled him for some two months. It is of interest that the pain began shortly after his recipient had celebrated the first anniversary of the graft by giving him a very expensive birthday gift which he felt the recipient could ill afford; this led to tension between the two men, and since that time the symbiotic relationship has been less intense. The donor is aware that the pain and discomfort at the wound site was due to tension. He confesses to worry about the recipient's future. "I still feel a part of him. I've got a deep interest in his well-being." At times he will telephone the recipient's physician in an effort to find out his state of health. Because of the close relationship that has developed he learns intimate details of the recipient's life, and he wishes this could be avoided; his ambivalence is obvious. "I give him (the recipient) a lot of leeway and do not get angry with him. The anger comes in time but I feel it in my stomach." At the interview it was interpreted that the wound scar represented the recipient in his body, and this was accepted.

Although well and at work this man shows signs of tension and his alcohol consumption is rising. There is some focusing of interest at the wound site, partly for what it symbolizes, and partly because he was told by the surgeon who carried out the nephrectomy that he had the biggest appendix he had ever seen. This potentially pathological tissue is also serving as a displacement focus.

Recipient D

He is a married man aged 38 years and has two young children. He comes from a disturbed family; he showed phobic traits as a child and truanted regularly from school. He is subject to mild mood swings. Psychological testing confirmed clinical impressions that he had difficulty in his relationships with women, and the combination of obsessional defences and signs of depression suggested that there could be difficult post-operative problems in management if all did not go well.

At follow up four months after his successful graft he appeared elated. Psychological testing showed a high level of anxiety. Because of financial loss due to his illness he was required to sell his home and buy a less salubrious one. The profit he hoped to make would help to pay off his creditors. Unfortunately he will have to borrow money from his mother, a domineering woman, to avoid a second mortgage on the new house, and so will be indebted to her. To offset the loan she is to make her home with them. He has gone back to his trade as a sheet metal worker and is doing a seven hour day for four days a week. He assesses himself as 80 per cent. fit, but feels better with each week that passes.

"Occasionally I think of my sister's kidney and then I mentally by-pass it. Most times I accept it well, but I find it unpleasant, it doesn't sound right. I don't like to talk about it." He expressed guilt over the fact that his sister now has only one kidney. These comments seemed to point to an underlying fear of feminization and threat to his masculinity.

He feels very deeply that he has been given a second chance in life and that he has changed in personality. He has become a regular church attender, and he showed signs of emotion while describing a deeper religious conviction.

Although sensitive about the site of operation, he is less inhibited in physical exertion than some of the other recipients. His libido has not returned, and intercourse is infrequent. He says that "since the first time", he has ceased to worry about hurt to his graft during intercourse.

He was aware that his donor was angry with him for going back to work too soon, but denied any interference on her part. He thought that most of his relatives and friends were overprotective.

Donor D

Aged 41, she is two years older than her brother, the recipient. From her history she gave the impression of a neurotic extravert who had achieved better stability with the passage of time. The Rorschach profile was largely an immature one, with many of the features of the hysteric. She appeared to have overcome earlier difficulties by reason of an independent resourcefulness, and because of this was accepted as a donor. At follow-up interview she expressed herself as fit and well. She sees herself as being more possessive of the recipient and was upset when he returned to work sooner than she considered he should. "After all, I thought, it's my kidney. I thought he was being unfair going back to work. Unfair to himself and unfair to me." She mentioned spontaneously that she had teased him about her kidney and said things like "that's me in there. My kidney is doing more work than yours ever did."

Recipient E

This is an umarried woman of 26 who before her operation was considered to have a hysteric personality. On psychological testing she appeared to be an impulsive and poorly controlled person with marked difficulty over sexual themes pointing to an unresolved oedipal situation. Nonetheless, there was a certain resilience and toughness about her which suggested that she would be able to cope with the stresses of chronic dialysis and of a renal homotransplantation.

At the first follow-up interview some eight months after transplantation, for which her mother was the donor,

the recipient considered that she had lost confidence following transplantation and was quite preoccupied with the well-being of the transplant. "I have a silly fear of the kidney dislodging where it was joined." She noted a feeling of obligation to her mother and found that she became irritable with her mother's overprotection and then felt guilty. She observed that she saw herself, and considered her mother also saw her, as an eternal child, and this worried her. "I feel in some ways inadequate to take advantage of this second chance of living. I feel I am wasting it. I am terribly aware of life now and enjoy every moment." At that interview, she felt very much in need of follow-up support in helping to wean herself from dependency upon the hospital.

At a second follow-up 14 months after transplantation, she commented on a new phase of adjustment which related in time to some four months previously when she had gone to live in a flat of her own. Again she commented on the initial period of adjustment when she found her mother overprotective to an irritating degree. She also noted that other friends seemed to be more than usually careful to ensure that she came to no physical or emotional harm. She sees her mother now twice weekly. The kidney transplant is never discussed. Asked about her anticipation of the future she considered that the graft might last two or three years. "I try to protect that side of my body and cover it with my hand even when I am just walking about." She has not entirely integrated the kidney as part of herself but thinks of it as a lump. "I accept the kidney as part of me although I suppose it is strange. It isn't entirely me." Asked about her appetite, she said "I love eating. I have to try not to over-eat." This was also the case before she was ill, so that the diet situation was a great strain to her.

In summary, the impression was that while over-conscious of the presence of the grafted kidney she did not allow this to interfere significantly with her way of life, and it seemed that the experience had enabled her to grow as a person in that she is less shallow than she was.

Donor E

This lady, aged 52, is the mother of the recipient and when first seen impressed as being well balanced, with good ego strength and integration; anxiety was low, and there was slight introversion. She had a wide range of interests, and although she had had marital difficulties this had been dealt with maturely. At follow-up she considered herself completely well and untouched by the experience. She found that her friends treated herself and her daughter "as if we had come from another planet". She wondered whether her daughter felt under an obligation to her, and when asked the reason she said the daughter seemed to have become more thoughtful and considerate. She herself felt that she had been overprotective, but was trying to avoid this reaction.

Discussion of Observations

Kemph (1966) in a follow-up of recipients, noted periods of severe depression and concern with body damage, particularly a fear that the operation might have produced sexual damage. All the recipients had some difficulty with their sense of obligation to the donors. On the other hand, some donors showed unconscious resentment toward the recipient or towards interested parties who had recommended the transplant. After the operation, the donors experienced a period of depression lasting an indeterminate time. This appeared related to a feeling that they were not attentively supported by the hospital personnel.

The small series described in this paper shows some similarities and differences. No severe depression was noted in the recipients nor in the donors. Two of the donors did feel that the renal team had lost interest in them, but the majority had no need for active support after their discharge from hospital.

In four of the five an ambivalent relationship did develop between donor and recipient. In such cases the donor experiences emotional and physical investment in the patient, and seeks to overprotect. He feels his sacrificial gift is in jeopardy if the recipient behaves in a manner of which he cannot approve. The recipient, for his part, is only too aware of his obligations and of the debt that can never be paid, and after a period resents the dependency relationship. This leads to feelings of shame and guilt which must be expiated, as for example in the giving of gifts or by always deferring to the other party. Obviously, the more unhealthy and strained or the more pathologically involved the pre-operative relationship, the greater the chance of tension leading to psychological decompensation after the operation.

Of the five couples, only one pair showed no evidence of a developing ambivalence. The two Italians, father-in-law and son-in-law were clearly different from the others in the matter of giving and taking the gift of the kidney. Whether this was due to some cultural factor, or to the tremendous practical support that was shown by the local Italian community, or to the warmth and outgoingness of the two men, is impossible to say. The Italian recipient was the only patient who felt no need to do anything special with his life after his successful transplant, nor did he feel particularly that he was being

given a second chance. The relationship between the two men appeared quite free of guilt.

The manner in which the donor "gives" his kidney, and his behaviour later, will affect the ease with which the gift can be accepted and the degree of obligation and guilt experienced. From observations made by patients whose transplanted kidney came from a cadaver, it would seem that this may be a more suitable source, since there is no one to remind the recipient continually of his obligations or to "needle" him in various subtle ways.

It appears clear from both Kemph's paper and this account that careful donor selection should take account of the possible development of post-operative hostile dependency. The dynamics of the recipient-donor relationship and of the donor's motivations should be well understood beforehand. These are likely to be complex in blood relatives, who are the donors most acceptable immunologically.

In only one of this series has a female donor given a kidney to a male. In this case, at the original pre-operative interviews it was noted that the recipient had never been very close to his father and that he had a dominant mother. His closest bond was with his sister, who seemed to have the role of the good mother in his life. It was thought that, as he had married and had fathered a son and daughter, his masculine identity was reasonably securely held. After the operation the interviews of both recipient and donor gave evidence of sensitivity to the femaleness of the grafted organ and of a need to deny its origin. From this it is suggested that in recipients whose sexual concept of themselves is very blurred, e.g. in a passive, effeminate man, every effort should be made to provide a kidney from a donor of the same sex.

All the recipients had gained weight, all said they had exceptionally good appetites and some already expressed concern over their weight gain. There was a deep emotional pleasure in eating. One reported, "I get an exquisite joy out of eating". A variety of factors are probably operating here. These include the possibility of weight gain due to cortisone, and over-compensation following the real deprivations of the pre-operative diet; while in view of the general loss of libido noted the orality of the patients may be explained as a regressive phenomenon connected with the disinterest in genital sexuality. It is clear that regression, with enhanced dependency, is a normal reaction to the situation facing these patients, but for some who are basically very dependent personalities there will be greater conflict in the process of rehabilitation.

Other features which have emerged during the period under review include :

(*a*) *Ideas of a Second Chance*—In general the recipients see the operation as giving them symbolic rebirth and can describe the feeling that in some way they have some special task or role to carry out. There is some evidence that religious conviction intensifies, and one patient appears to have had a religious conversion following his experience. Certainly three of the recipients were already devoted practitioners of their faith, and this undoubtedly was a support to the morale at times of crisis. In one case life had been made more meaningful by voluntary charity towards other kidney sufferers. This suggestion of dependency could be interpreted as self-gratification.

(*b*) *Socio-economic fears*—Three of the six patients have suffered considerable financial privation as a result of their illness. Jobs have had to be changed, wives have had to go out to work, a home has had to be sold to pay off accumulated debts : these economic difficulties require time, patience and practical aid to resolve, and during this trying period for the family the services of a social worker have a high priority (MacNamara, 1967). A number of the patients can express directly a fear of the future, being uncertain of the functional expectancy of the graft. They cannot bear the prospect of resuming dialysis with its hospital dependency. "It's a bit like living on a razor's edge." The less stable the patient the more these fears are uppermost, but all have experienced doubts of the future at times.

(*c*) *Graft Traumatic Anxiety*—All the recipients show anxiety lest the grafted kidney suffer injury. This fear may be associated with primitive conceptualization, for example, one patient visualized the kidney sitting on a "shelf

arrangement". She worried that it might wobble off if she were too active. Various patients used emotionally coloured words to describe what they feared might happen, e.g. "split", "rupture", "burst". Several patients had avoided sexual intercourse and called it "frightening". The majority showed impaired sexual interest when compared with their previous drive. When the act was undertaken it was seen as an obligation to meet the needs of the spouse.

The increase in appetite, with its associated marked weight gain, the fear of intercourse and loss of libido and the preoccupation with "guarding" the operation site might be symptoms such as occur during the rehabilitative period after any serious surgical operation. Although the cardiac "control" patients had a sense of well-being, none of them described intense interest in eating, nor had any put on excessive weight. They were all more active sexually and had no fear of the act. One male patient said bluntly that he had had more fear of intercourse before his operation because of dyspnoea and tachycardia. None of the cardiac patients felt any need to guard their chest from injury. None described the experience of having been given a second chance. The difference between the two groups in these features may be due to the fact that public awareness of and understanding of cardiac surgery is now at such a level of sophistication that there is less fear and anxiety than obtains in the case of kidney patients. Evidence pointing in this direction is given by Burgess *et al.* (1967), who have noted that the frequency of psychiatric disorders seen after closed mitral valvotomy has lessened since the early 1950's. There has, however, been an increase in psychiatric sequelae following open intra-cardiac surgery with the use of heart-lung by-pass and extra-corporeal circulation techniques. The earlier operations are now more commonplace and are accompanied by less anxiety on the part of both staff and patients. Similarly Cramond *et al.* (1967) have seen more ease of acceptance of haemodialysis with less frequent crises and psychological disturbance in patients now entering the dialysis programme compared with those who began three years ago when staff were still in the familiarization process. It may be that when transplant operations become more frequent the special aura which still surrounds them will be dispelled.

In a previous paper, Cramond *et al.* (1967) referred to the psychological criteria used in the screening of potential donors in a renal homotransplantation programme. Examples were given of cases where donors had not been accepted because of potential difficulties in the post-operative relationship with the recipient. The present follow-up study, with the evidence that a hostile dependency may develop even in cases where the previous relationship was sound, shows that there is justification for the strict psychological standards set, and that these have provided a good basis on which to work.

The follow-up interview gives all the recipients and donors an opportunity to talk, and to explore and ventilate their deep feelings. So much time, money, skill and effort have been expended by modern medicine in treating these people that adequate supportive psythotherapy appropriate to the individual's needs is important. This need not necessarily be psychiatric. In the series under review, however, all the patients, recipient and donor alike had developed an intense identification with members of the Renal Unit and with the hospital. Although the psychiatrist was a peripheral member of the team, he benefited from the positive feelings the patient had towards the group, thus promoting a good psychotherapeutic situation. It would take much longer for a therapist less directly involved to gain the confidence of the patient to anything like the degree required. As Caplan (1964) has noted, the outcome of a crisis is in most cases not determined by its antecedent factors, which only "load the dice" in favour of a good or bad psychological outcome. During the crisis the person experiences a heightened desire for help and communicates his distress, and it is during this stage of disequilibrium of the crisis that a person is more susceptible to influence by others than during periods of stable functioning. Crisis, therefore, presents care-giving persons with a remarkable opportunity to deploy their efforts to maximum advantage for the future stability and even emotional growth of the patient.

The intense positive transference which the

patients and donors developed towards the renal team and to individuals in it allowed identification to take place. In three of the five recipients the experience, difficult though it was, favoured personal psychological growth. The overall impression of the five recipients in this series was that they were coping reasonably well, and that the donors were physically and emotionally unharmed by the experience.

Summary

An account is given of the psychological and socio-economic problems occurring during the rehabilitation of five patients who underwent renal homotransplantation. The adjustment period certainly lasts longer than one year, and the longest survivor in this series (twenty-five months) considered he was still slowly improving. The findings, particularly of a mutually hostile dependency between recipient and donor, and of a graft from a donor of the opposite sex being a threat to sexual identity, have implications for the selection on psychological grounds of future donors.

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