LL ·

Case No 585/1988

IN THE SUPREME COURT OF SOUTH AFRICA
APPELLATE DIVISION

In the matter between:

OVATION RECORDING STUDIOS (PTY) LIMITED

Appellant .

and

COMMISSIONER FOR INLAND REVENUE

Respondent

CORAM:

CORBETT CJ, BOTHA, SMALBERGER,

MILNE JJA et FRIEDMAN AJA

HEARD:

3 MAY 1990

01 -06-1990

DELIVERED:

1 JUNE 1990

JUDGMENT

BOTHA JA:-

The sound of music is a prominent feature of this case, even though the issue for decision relates to liability for income tax.

The appellant company carries on business in Johannesburg. In its returns of income rendered in terms of the Income Tax Act 58 of 1962 ("the Act") for the years of assessment ended June 1982, June 1983 and March 1984, the appellant sought to deduct from its income the "machinery investment allowance" provided for in section 12(2)(c) of the Act, in respect of various items of equipment purchased and then used by it in the conduct of its business. The amounts of the allowances claimed in each of the years of assessment in question were as follows:

1982 R58 000,00

1983 R35 767,00

1984 R8 438,00

The deductions claimed were allowed at first, but thereafter the respondent ("the Commissioner") issued

additional assessments for the years in question, in which the deductions were disallowed and added back to the appellant's income. Having unsuccessfully objected to these additional assessments, the appellant appealed to the Transvaal Income Tax Special Court. The Special Court, O'Donovan AJ presiding, dismissed the appeal and confirmed the assessments. The appellant was granted leave, in terms of section 86A(5) of the Act, to appeal to this Court against the decision of the Special Court.

The provisions of section 12 of the Act which are relevant to this case read as follows:

"12(2) Where any new or unused machinery or plant - ...

.

(c) is brought into use on or after 1 July 1979 by any taxpayer for the purposes of his trade (other than mining or farming) and is used by him directly in a process of manufacture carried on by him;

• • • • •

there shall further be allowed to

be deducted from the income of such taxpayer for the year of assessment during which such machinery or plant is so brought into use an allowance, to be known as the 'machinery investment allowance', if -

.

(iv) such machinery or plant is brought into use by any taxpayer on or after 13 August 1970 but not later than 30 June 1985."

It is common cause that, according to the applicable provisions of section 12(2A), the relevant rate of the allowance in this case is 30 per cent of the cost of the machinery concerned.

In delivering the judgment of the Special Court O'Donovan AJ remarked as follows:

"The only issue in this appeal whether the machinery or plant in respect of which the machinery investment allowance is claimed by the appellant, was used by the 'directly appellant in a process manufacture' for the purposes of section 12(2)(c) of the Act. The description of the various items of plant or machinery respect of which the deduction is claimed, the cost to the appellant and the method of calculation of the amount sought to

deducted, are not in dispute."

The learned Judge proceeded to describe the operations carried on by the appellant in the following terms:

appellant used the plant equipment for the purpose of producing master recording tapes. For that purpose sound by musicians created was received by microphones and then fed into an audio The audio information was control console. then processed and fed onto a multi track tape recorder.

Once the recording stage was completed, the information was fed back into the audio control console for mixing and finally to a stereo tape recorder. The stereo mix was then edited and forwarded to a record manufacturing company. The record manufacturing companies then produced records and tapes."

This terse description of the appellant's activities was taken from the letter of objection written by the appellant's attorneys to the Commissioner, in response to the additional assessments mentioned earlier. At the hearing of the appeal by the Special Court, however, a far more detailed and much clearer picture of the nature of the appellant's manner

of conducting its business, and of the function of the equipment used by it in connection therewith, emerged from evidence tendered by the appellant. The evidence was given by Mr John Lindemann, who is a "sound engineer" by occupation and who had risen to the position of managing director of the appellant at the time when he testified. His evidence, both in chief and under cross-examination, is the source of the facts set out below.

The appellant operates a recording studio. The studio is divided into three separated sections, each one of which is acoustically so designed and constructed perfectly sound-proof is relation to the others. The partitioning between the sections has portions of glass, allowing for visibility section to another. Communication to from one persons in the different sections is achieved by means of the use of headphones. When recording takes place, one of the sections of the studio, referred to as the main studio area, is occupied by the performing musicians and artistes, except for the drummer. The latter performs in a second, smaller section of the studio, in order to isolate the "noise" made by the drums from the main studio area. The remaining, third section of the studio is referred to as the control room. It is manned by a producer and a sound engineer (also referred to as a recording engineer).

The main studio area and the drummer's booth contain a large number of microphones (the recording system can accommodate the use of 48 microphones at one time). The microphones are linked to the electronic equipment which is housed in the control room. The major item of equipment in the control room is an audio control console. This is a large machine, the single most expensive apparatus used in the studio. It was imported and put into use by the appellant during the 1982 year of assessment at a cost of R186 753,00 (in April 1987 it would have cost between R400 000 and

R500 000 to replace it). On the top of the machine there is situated a panel equipped with a large number of knobs and other controlling devices. These are operated by the sound engineer. The functions of the audio control console and the sound engineer's operation of it constitute the heart of the activities carried on in the studio.

produced by the performing The sounds musicians and artistes received into are microphones and relayed to the audio control console. machine the are processed. Ιn that sounds processing of the sounds in the audio control console is a sophisticated operation involving a multiplicity of manipulations. They include the following. sounds are equalized; in the most simple terms, complex treatment of the sounds means that and treble qualities are either added Extra echoing effects can be added, or the reduced. dynamics of the sound signals can be squashed by means

of compressors. Artificial reverberation effects can be supplied by digital reverberators which are computer controlled and which can simulate a concert environment or a performance in a confined space like a Part of the function of the audio control cupboard. console is to capture the musical performance which is to be recorded as accurately as possible. But another part of it, which is of no less importance, is to create and add unnatural sounds to those produced by the musicians. The appellant does not record classical music; it is not engaged in the so-called "hi-fi" business. Its activities are confined to the field of so-called "pop music". In that sphere it does not attempt to reproduce faithfully the sounds produced by the musicians; on the contrary, it processes those sounds and makes them totally different. To that end . the equipment it uses comprises very up-to-date digital technology of a high quality, which is akin to computer technology. Thus, the music with which the appellant

concerns itself contains a great deal of "electronic music", which could bе called "music produced numbers". The original idea of the "computerised" part of the music would still have to come a musician, but the sound engineer operating the audio control console could push the necessary buttons and recreate that music without any person actually having to play a musical instrument. In the appellant's end product (which is a master tape, to be described more fully presently), the proportion of emanating from the musicians to those which are brought into being by the equipment used in the control room is, generally speaking, about 50 per cent live music and 50 per cent electronic.

The audio control console is used in conjunction with a number of other items of equipment in the control room which contribute to the processing of the sounds transmitted to it. I shall mention a few of these. There are compressor/limiters, which control

the dynamics of any signal by bringing the louder sounds down and the softer sounds up (for instance where a vocalist sings too loudly at one point and too softly at another). There is a graphic equalizer, which splits the audio frequency into separate bands, providing a very sophisticated tone control which can contour the sound in any way desired, for instance by making it brighter or duller. A noise reduction unit (costing R19 536,00) is used to achieve the sonic quality that is required in modern recording. a piece of digital equipment which can store sounds and reproduce subsequent recordings; them into harmoniser, which can change the pitch of any signal (for instance, correcting a flat note produced by a vocalist); and even a machine that controls sibilants (correcting "bad" s's of a singer). In addition, various other items of equipment are put into use for the purpose of achieving synchronization of sound and pictures, when the music recorded is intended for use together with video tapes.

The sounds received into the audio control console are relayed to a multi-track recorder. (In the 1983 year of assessment one of these machines was imported at a cost of R41 399,00.) In this machine the music is recorded on a two-inch wide magnetic tape which has 24 separate tracks. The use of a tape with so many different tracks provides the sound engineer with great flexibility in enhancing the quality of the appellant's end product. By means of the audio control the sounds conveyed to it from different console microphones are routed onto separate tracks of the tape. The musicians and artistes involved particular production are not required to render their performances simultaneously. In a typical production the rhythm section (pianist, drummer, bass player and guitarist) will perform first, the sounds created by them being routed onto about 8 to 12 tracks of the when that part of the production has been

completed to the satisfaction of the performers, the sound engineer and, ultimately, the producer, the next stage will be the performance of the lead singer, using headphones to listen to the music already on the tape, and this part of the production will be put onto perhaps two further tracks of the tape; stage the string players will come in; thereafter the choir, forth, each section being put onto further tracks of the tape. At the conclusion of the entire procedure, the sound engineer and the producer can listen to and assess the result by making use ofspecialized loudspeakers. The sound engineer is then able to take out mistakes, to wipe out entire tracks, and, if required, to re-do single tracks of individual performers, until a satisfactory composite result is achieved. The multi-track tape also facilitates the processing, or re-processing, of the sounds thereon, in the manner indicated above.

At the completion of the recording on the

multi-track tape, the sounds are fed back into the audio control console, where they are further processed or re-processed. They are then transmitted, in final form, to a master recording machine. (The cost of one of these in 1983 was R6 442,00). In this machine, a master tape is used, on which the result of the entire procedure outlined above is captured and stored. When that has been done, the master tape is the end product of the appellant's activities.

The master tape is one-quarter of an inch wide it has two tracks. It is similar and appearance to the type of tape that is commercially cassettes in shops, but sold it is a professional and heavier duty tape. It has a coating ferric-oxide particles on a polyester or plastic backing. In a blank state (i e before it is used for recording purposes) the metal particles are laid out in fairly uniform When it is manner. recording, those particles are rearranged in various ways by magnetically implanting various audio signals onto the tape. The physical changes are minute and invisible to the naked eye, but there are devices by means of which the rearrangement of the particles can be discerned. When sounds have been recorded on the tape, it can be wiped clean and re-used for recording afresh.

The blank master tapes used by the appellant in its business are imported and they cost about R120,00 apiece. A blank master tape may be regarded as the "raw material" used by the appellant for the production of its end product, which is the master tape with the music recorded on it. The end product has a value of about R30 000,00 to R40 000,00. To bring it into being can be a very laborious process. One master tape with about 30 minutes of music on it can take up to five weeks to produce. A master tape is produced by the appellant for the sole purpose that it is to be used in the mass production of gramophone records and

cassette tapes which are sold commercially to members of the public. The appellant itself is not engaged in this latter process. That is undertaken by the record companies, whose business it is to produce the standardized articles in bulk. For convenience I shall refer to such companies as the publishing companies.

The appellant's customers are the publishing companies, and it is to them that the appellant supplies the master tapes when the recording process is completed. What happens in practice, is the following. publishing company commissions particular appellant to undertake the recording of some particular project. The musicians and artistes involved in the project will render their performances under contract with the publishing company, which pays them their The appellant then places at the disposal of the publishing company the use of its studio and equipment and facilities, recording also the services of its sound engineers (four of them were

employed by the appellant during the relevant period). The person in charge of the project is the producer, who is employed by the publishing company. He controls the creative output of the musicians and artistes, and he instructs the sound engineer as to his requirements. The sound engineer is in control of the technical side production; operator he ís the electronic equipment used in the studio. But he is more than a mere technician; he has musical knowledge has creative ability. Hence, although the creative process is directed by the producer, a degreeof creativity is provided by the engineer himself.

The appellant does not sell its finished product to the commissioning publishing company at a particular price. The income earned by the appellant from its business is cast in a different form. It is referred to as "studio revenue". The appellant charges the publishing company for the use of its facilities at a unit rate per hour of the time during which the

facilities are utilized by the publishing concerned. From typical invoices issued appellant it appears that the charges are levied by the appellant and payable by the publishing company after each separate session of recording during the process of production. (The standard unit charge seems to be R76,50 per hour, plus an additional R15,00 per hour for "overtime".) Basically, these charges remuneration for the hiring of the appellant's facilities, which comprise mainly the use of studio, the equipment in it, and the services of the sound engineer. At the conclusion of the process of production the appellant also debits the publishing company with the cost of the blank master tape used plus its "mark-up" on that.

That concludes my survey of the evidence which was before the Special Court. I have referred to the appellant's activities and the manner of carrying on its business, in the present tense, simply for

convenience; in fact the description given above relates to the years of assessment which are relevant in this case. I have mentioned a few random examples of the cost of some of the items of equipment in question, simply by way of illustration of what is involved. There is no need, however, to list fully all the items of equipment and the cost of each item, in view of the narrow compass of the issue to be resolved.

As mentioned earlier, the only issue which the Special Court was called upon to decide, was whether the equipment in question was used by the appellant "directly in a process of manufacture" for the purposes of section 12(2)(c) of the Act. The phrase "a process of manufacture" in this context is a familiar one, which has been considered in many cases, including two decided in this Court: Secretary for Inland Revenue v Hersamar (Pty) Ltd 1967 (3) SA 177 (A) and Secretary for Inland Revenue v Safranmark (Pty) Ltd 1982 (1) SA 113 (A). It is clear from these cases that

there are no hard and fast rules for deciding whether a taxpayer's activities fall within or outside the ambit of the section, but the following general propositions emerge as governing the enquiry: the term "process of manufacture" comprises activities which constitute the production of a thing which is essentially different from the materials or components which went into its making; the concept of "essential difference" necessarily involves an element of degree in determining whether the change brought about between the original material and the finished product is sufficient for the process to qualify as being one of manufacture; whether the requirement of an essential difference in relation to such change is satisfied, cannot be determined by any fixed criteria or any precise universal test; each individual case the particular facts must examined and analyzed in order to assess and evaluate the "change in regard to the nature or form or shape or utility, etc, of the previous article or material or substance"; and in doing so the ordinary, natural meaning of the phrase "process of manufacture" in the English language must not be disregarded (see Hersamar's case supra at $186 \pm f - 187E$ and Safranmark's case supra at 116G-117D and 122D-123B).

I proceed to apply these considerations to the facts of this case. For the purposes of this exercise I consider first that part of the appellant's activities which consists of the conversion of a blank master tape into a master tape bearing the imprint of the sound of music. I shall refer to the tape in its latter state as "the finished master tape". The blank master tape is the original material (or "the previous article") which the appellant subjects to a process by which it is turned into the finished master tape, which is the article produced by the appellant. What falls to be considered, therefore, is the change brought about between the blank master tape and the finished master tape, and the resultant difference between the

two.

From a purely physical point of view, the change minute and the difference discernible with the naked eye. In many cases physical characteristics and dimensions οf the original article difference between the finished product may be important and even decisive, but that is not invariably the position. There are other factors to be taken into account (see the remarks of GROSSKOPF J, made in the Court a quo in Safranmark's case supra and cited with approval by GALGUT AJA in this Court at 124E-H). In the extract quoted above from Hersamar's case, viz "change in regard to the nature or form or shape or utility, etc, of the previous article....", the words "form" and "shape" refer to physical attributes, but neither the word "nature" nor the word "utility" is so limited, under the umbrella of "etc" must certainly be included, I consider, the factor of "value". As a matter of

principle I can see no reason for generally according more weight to features of "form" and "shape" than to the attributes of "nature" (in a non-physical sense), "utility" and "value". The relative weight to be given to the various features of change must depend on the particular facts of each case. In the circumstances of the present case it would be wholly unrealistic and artificial, in my opinion, to focus attention on the insignificant degree of the physical difference between the blank master tape and the finished master tape. Instead, it is both appropriate and necessary, in my view, to concentrate on the degree of difference in relation to nature (in a general sense), utility and value.

From that point of view, it is clear that there is a very substantial difference between the blank master tape and the finished master tape. In its blank state, the master tape is of relatively small value, and it has no use other than to capture and

store (to record) sounds on it. The finished master tape, on the other hand, is an article of great value (roughly 200 times as much as that of the blank tape), and it is used for the production in mass of records and cassette tapes which are sold commercially to the public, with the potential of generating vast sums of money. In my judgment, there can be no doubt that the finished master tape, which is the product of the appellant's activities, is essentially different from the blank master tape which is used to produce it.

The requirement of "essential difference" being satisfied, I turn to the other relevant considerations, and I take as my starting point the Special Court's reasons for rejecting the appeal to it. The gist of its reasons appears from the following passage in the judgment of O'Donovan AJ:

"It is urged on behalf of the appellant that the process carried out by it, resulted in an essential change in that microscopic particles coating the magnetic tape would be re-arranged in the process of recording. But manufacture implies the bringing about of an essential change of some permanence in the character of the article manufactured, which goes further than merely recording and editing. In this case it is not in dispute that the master tape can easily be wiped clean and re-used."

Special Ιt the Court found that seems that appellant's process was not one of manufacture, because the change brought about to the master tape failed to satisfy what was required, on two grounds: first, it had to go further than "merely recording and editing"; "some secondly, had to be of permanence" it (whereas the master tape could easily be wiped clean In my view, with respect, the Special and re-used). Court erred in its reliance on each of these grounds.

As to the first ground, the Special Court held, by implication, that the appellant's activities did not proceed beyond "merely recording and editing". But this finding flies in the face of the facts which had been placed before the Special Court in evidence. To refer to the appellant's activities as the recording

and editing of music is no doubt a convenient way of describing what the appellant was doing, but such a description is an abbreviated and superficial one, does not reflect the true nature activities either fully or accurately. Ιn context consideration must be given to that part of the appellant's activities which consists of its treatment of the sounds from the time they are received into the microphones until the time when they are ultimately fed from control console into the the audio master recording machine and onto the master tape. evidence shows that during this process the sounds are manipulated in a large variety of ways, as has been inter alia, they are amplified or described earlier; reduced, made brighter or duller, altered and adjusted, mixed, and substantially supplemented by the addition of other, electronically stored or manufactured sounds and sound effects. The whole process can justly be described, it, assessment of

drastically changes the original sounds produced by the performing musicians and artistes. Consequently the appellant's activities indeed went very much "further than merely recording and editing" the music.

As to the second ground, I consider it to be irrelevant that the finished master tape could easily be wiped clean and re-used. On delivery of the appellant's product to the publishing company concerned, and its acceptance by the latter as being in compliance with its requirements, neither the appellant nor the publishing company would ever contemplate such possibility, save perhaps in most exceptional for to wipe out the recorded sounds circumstances; would be to destroy the result of the costly process which hađ been undertaken and completed, nullify the purpose of it. So the wiping clean of the finished master tape is no more than a theoretical possibility, and it is quite unrealistic to regard the change in the master tape as lacking "some permanence".

In the course of his judgment O'Donovan AJ observed:

"The phrase 'process of manufacture' should not receive a construction which implies any extension beyond the ordinary natural meaning of that phrase in the English language."

It would seem from the tenor of the judgment that, apart from holding that the appellant's process was not manufacture, on the two particular grounds discussed above, the Special Court was further of the view that, in general, the appellant's activities did not constitute a "process of manufacture" in accordance with ordinary and natural English usage. With respect, not agree with this On the evidence outlined earlier, the heart of the appellant's business was the use of numerous expensive, highly sophisticated and technically specialized items of equipment, in a series of complex operations controlled by a skilled technician with creative ability, in order to produce a commercially marketable commodity. In my judgment, it

would not be departing from common parlance or the ordinary usage of language to say that the appellant was engaged in a "process of manufacturing" master tapes fit for use in the mass production of records and cassette tapes.

In support of the conclusion arrived at by the Special Court, O'Donovan AJ referred to three In regard to the first of these, Case 58 reported in 21 CTBR (NS) at 643, the learned Judge mentioned that it was there held that a punched control tape made for the purpose of a computer programme could not be described as "manufactured" without departing from ordinary English usage. However, in regard to the ordinary meaning of the phrase "process of manufacture", it was pointed out by CORBETT JA Safranmark's case supra at 117B-D that "analogies can be misleading". The facts in Case 58 are not on a par with those in the present case and I can see no point in any further discussion of that case. The second case is <u>Income Tax Case 997</u> 25 SATC 177, from which the learned Judge quoted the passage at 179 commencing with the words

"The recording of sounds on tapes or films is not of itself manufacturing"

Since have already held that the appellant's Ι activities involve much more than the mere recording of sounds, there is no need to give: any further attention to that case. The third case is Automated Business Systems (Pty) Ltd v Commissioner for Inland Revenue 1986 (2) SA 645 (T). The learned Judge remarked that the present case was not unlike that case in respect, that the process there considered was one in which written data could be taken up and stored on a magnetic tape or disc, which could be cleaned after it had performed its function and used again. However, I have already pointed out that in the circumstances of the present case, the fact that the finished master tape can be wiped clean and re-used is irrelevant; there is accordingly no analogy between the two cases in the respect referred to by the learned Judge. any event, the Automated Business Systems distinguishable from the present case in at least two fundamental respects: firstly, it was there held that the process in question did not involve the production of anything essentially different, while on the facts of the present case it is clear that the finished master tape is "an essentially different entity in its own right", to use the words of MILLER J in Income Tax Case 1247 38 SATC 27 at 32 (see Safranmark's case suprasecondly, the end product in that case was at 122H); in no sense a marketable commodity, while the finished master tape in the present case undoubtedly is.

It remains to consider whether the particular relationship between the appellant and its customers, the publishing companies, has any impact on the issue to be decided. In my view, it has not. I have referred to the finished master tape as a commercially

marketable commodity. I consider that description of the article to be apt, despite the fact that it is not actually made to be offered for sale on the open market. It is supplied and delivered to the particular publishing company which commissioned its production. In my opinion that circumstance does not detract from the nature of the appellant's product. Nor does it matter that what the appellant produces is tailored to the requirements of the commissioning publishing company and is not a "standardized product". last-mentioned concept was relied upon in the majority judgment in <u>Safranmark</u>'s case <u>supra</u>, in order support the conclusion that the fried chickens question in that case were the products of a process of manufacture, but it does not follow that the production of a standardized product is a prerequisite for finding that a process of manufacture is involved. respect I agree, with respect, with the remarks of FRIEDMAN J in Income Tax Case 1465 52 SATC 1 at 6

(reported in February 1990). Then there is the fact that the appellant's income is derived from "studio revenue", which represents the rental charged for the the studio, the equipment in it, and the services of the appellant's sound engineer. In my view the manner in which the appellant arranges the payment of remuneration for its process of production is of no consequence in relation to the question whether the appellant is engaged in a process of manufacture. Lastly, I refer to the fact that the publishing company employs and supplies the musicians and artistes, as direction the producer under whose supervision the recording takes place. In my view this does not entail that it is the publishing company, and not the appellant, which undertakes the process of manufacture, or that they are engaged in a joint In the circumstances of this case, venture. disclosed in the evidence, the role of the producer extends no further than to ensure that the appellant's

product is made in accordance with the publishing company's requirements and to its satisfaction. In the final analysis, however, it is the appellant's equipment which is used in the process of production, and that equipment is operated and controlled directly and solely by the appellant's sound engineer. It is clear, therefore, in my view, that the appellant itself carries on the process of manufacture in its own right.

In the final result, the conclusion to which

I come is that the appellant discharged the onus of

proving that the items of machinery or plant in

question were used by it directly in a process of

manufacture carried on by it, and that the Special

Court erred in disallowing the appeal to it.

This conclusion is, however, subject to one minor qualification. In argument before this Court, counsel for the appellant very properly drew our attention to the fact that amongst all the items of equipment listed by the appellant in its returns for

the years of assessment in question, there was one item that stood apart from all the others. This was a grand piano, which was acquired and put into use by the appellant in the 1982 year of assessment, at a cost of R4 000,00. The appellant made the piano available in its studio as a matter of convenience, for the use of the performing musicians. Counsel conceded that the piano could qualify for the machinery investment allowance only if it were held that the appellant's process of manufacture commenced with the production of music by the musicians, and submitted that this Court should hold accordingly. I am unable to accede to this submission. Although the production of sounds by the musicians and the receiving of the sounds into the microphones take place practically simultaneously, there is nonetheless, I consider, a distinct notional. difference between the two occurrences: in essence, the musicians' performance is no part of the appellant's actual process of manufacture, which commences only at

the moment the sounds are received into the microphones. Apart from that, and in any event, I do not consider that a grand piano can properly be brought home under the concept of "machinery and plant", and on that ground alone it should be excised from the list of items in respect of which the appellant is entitled to claim the machinery investment allowance. It follows that 30 per cent of R4 000,00 must be disallowed and deducted from the appellant's total claim.

The order of the Court is as follows:

- The appeal is allowed with costs; including the costs of two counsel.
- 2. The order of the Special Court is set aside and there is substituted for it the following order:

"The appeal is allowed. The additional assessments for the years ended June 1982, June 1983 and March, 1984 are set aside,

and the matter is referred back to the Commissioner for reassessment on the basis of admitting the machinery investment allowance claimed by the appellant, with the exception of an amount representing 30 per cent of R4 000,00 claimed in respect of the grand piano as reflected in the return for the 1982 year of assessment."

A.S. BOTHA JA

CORBETT CJ

SMALBERGER JA

CONCUR

MILNE JA

FRIEDMAN AJA