

TROELSTRA *ET AL.* REPLY—We agree with McCoy and Stanley's view that the age at the bottom of the Tyro Basin core must be considerably younger than we had assumed in our papers, which were mainly based on shipboard observations. Shore-based analyses, still in progress, have produced different data. Because of the different bottom water regimes in the Tyro and Kretheus basins, we would like to consider each basin separately.

First, we want to stress that, at present, conditions suitable for sapropel formation, namely an anoxic and reducing environment due to halocline water stratification, do exist in the Tyro basin. Laboratory studies on core P46 indicate that sediments were not deposited in exclusively pelagic conditions. The most important argument for this is the presence of fining-upward sequences in the core, indicating transport by mass-flows. Furthermore, faunal and floral composition through the core is rather uniform and suggests a relatively warm climate. If the age at the bottom of the core were 80,000 yr, a fluctuating faunal and floral pattern would be expected, due to climatic changes. Moreover, the presence at the bottom of the core of well-preserved algae, one species still in possession of bright green-coloured chlorophyll, indicates that little or no diagenesis took place. This is contrary to what one would expect if the sediments were deposited at 80,000 yr BP.

In contrast to the Tyro Basin, bottom waters in the Kretheus Basin are well-ventilated at present. Core P45 consists of alternate dark-coloured (? resedimented sapropel) and lighter-coloured sediments. The latter contain abundant sand-sized grains of metamorphic rock indicating that sedimentation in the Kretheus Basin is also governed by mass-flow transport. Planktonic foraminiferal composition through the core is comparable with that in core P46.

We conclude that sedimentation rates in both basins must be high. At this stage, pending ^{14}C analyses, an entire Holocene age for both cores cannot be excluded. Resedimented S1 may be one of the major contributors to the sapropelic intervals in the cores, as correctly assumed by McCoy and Stanley.

S. R. TROELSTRA*
G. T. KLAVER†
H. L. TEN HAVEN‡
D. JONGSMA*

* Free University,
Institute of Earth Sciences,
1007 MC Amsterdam,
The Netherlands

† University of Amsterdam,
Institute of Geology, 1018 VZ Amsterdam,
The Netherlands

‡ University of Utrecht,
Institute of Earth Sciences,
3584 CD Utrecht,
The Netherlands

Sequence similarity among retroviruses—erratum*

RECENTLY Toh *et al.*¹ reported the existence of amino acid sequence similarity between the reverse transcriptase of certain retroviruses and the DNA polymerases of cauliflower mosaic virus (CaMV) as well as a region of hepatitis B virus (HBV) that probably encodes a DNA polymerase. For completeness, we draw attention to other regions of protein similarity between retroviruses (human T-cell leukaemia virus, HTLV; Moloney murine leukaemia virus, Mo-MuLV; and Rous sarcoma virus, RSV), HBV and CaMV that were not reported by Toh *et al.*

The sequences are presented in Table 1 and the relative positions of the similar regions indicated in Fig. 1. The common set of amino acids discussed by Toh *et al.* is conserved in the amino-terminal region of all retrovirus reverse transcriptases studied (regions I–III). These common sequences are located near the amino-terminus of the HBV protein and the centre of the CaMV polymerase. Another region of similarity, IV, not discussed by Toh *et al.*, is also found in all retroviruses and is present in the CaMV protein. Region V, reported by Toh *et al.*, to be present in Mo-MuLV and RSV, is also found on HTLV. We also draw attention to sets of amino acids that are conserved

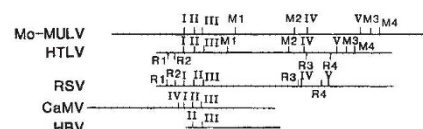


Fig. 1 Alignment of the polymerase gene products among five different viruses, depicting the regions shown in Table 1.

with respect to sequence and relative position between the reverse transcriptases of HTLV and Mo-MuLV (M1–M4) and HTLV and RSV (R1–R4).

ROBERTO PATARCA
WILLIAM A. HASELTINE

Laboratory of
Biochemical Pharmacology,
Dana Farber Cancer Institute,
Harvard Medical School,
Boston, Massachusetts 02115, USA

- Toh, H., Hayashida, H. & Miyata, T. *Nature* **305**, 827–829 (1983).
- Shinnick, T. M., Lerner, R. A. & Sutcliffe, A. *Nature* **293**, 543–548 (1981).
- Seiki, M. & Hattori, N. *Proc. natn. Acad. Sci. U.S.A.* **80**, 3618–3622 (1983).
- Schwartz, E., Tizard, R. & Gilbert, W. *Cell* **32**, 853–869 (1983).
- Gardner, R. C. *et al. Nucleic Acids Res.* **9**, 2871–2888 (1981).
- Ono, Y. *et al. Nucleic Acids Res.* **11**, 1747–1757 (1983).

Table 1 Alignment of the similar regions in polymerase gene products among different viruses

REGION	VIRUS	SEQUENCE	REGION	VIRUS	SEQUENCE	
I	HTLV	114 DLRDAFFQITPL	M3	HTLV	720 TDNGPAYIS	
	Mo-MuLV	270 DLKDAFFCLRL		Mo-MuLV	974 TDNGPAFVS	
	RSV	107 DLKDCFFFSITPL				
	CaMV	355 DCKSGCFWQITLL				
II	HTLV	150 WKVLPQGFKNSPTLF	M4	HTLV	745 HVPYNPTSSGVERSN	
	Mo-MuLV	305 WTRLPGGFKNSPTLC		Mo-MuLV	799 HCAYRPQSSGVERMM	
	RSV	143 WTVLPQGMTCSPITLC				
	CaMV	384 WNVVPFGLKQAPSLF				
III	HTLV	25 ERKIPMGVGLSPFL	R1	HTLV	37 LQALQHLVRKALEAGHIEP	
	Mo-MuLV	184 ILQYMDIDLLASP		RSV	31 LVALTQLVRKELQLGHIEP	
	RSV	338 ILQYDDIDLLAATSE				
	CaMV	177 MLKYMDIDLLAASSH				
IV	HTLV	413 CCYYDDIDLVFSNNE	R2	HTLV	61 NNPVFPVKKANGTWRFIHLRAV	
	Mo-MuLV	57 LAFSYMDIDVVLGAKSM		RSV	55 NTPVFIKKAAGSYRLHLDLRAV	
	CaMV	331 DAYNLPNKDELLTLIRGKKIFSSF		R3	HTLV	572 HVRSH
	Mo-MuLV	727 EGKEIKNKDEILALLKALFLFPKRLS			RSV	546 HVRSH
HTLV	541 LALGTFQGRSSQAPFQAALLPRLLS	R4	HTLV		660 IWGGDIT	
RSV	556 FFTEGNPVADSQATFQAALYPLREAK		RSV		633 IWQDIT	
V	HTLV		677 LHVWDTFSGAITS	M1	HTLV	263 QALL
	Mo-MuLV		930 LLVVEIDTFSGWIEA		Mo-MuLV	469 QALL
	RSV	650 LAVTVDTASSAIVV				
M2	HTLV	499 PPHKSAQRAELLGL	M2	HTLV	499 PPHKSAQRAELLGL	
	Mo-MuLV	673 PAIGTSAQRAELLAL		Mo-MuLV	673 PAIGTSAQRAELLAL	

Moloney murine leukaemia virus, Mo-MuLV²; human T-cell leukaemia virus, HTLV³; Rous sarcoma virus, RSV⁴; cauliflower mosaic virus, CaMV⁵; and hepatitis B virus, HBV⁶. Common amino acids are boxed and conservative substitutions with respect to HTLV are underlined. For each sequence, the first amino acid is numbered.

* This paper was published in the issue of 17 May without title and Fig. 1 due to printing errors.