It may therefore be concluded that the value of internal pressure of organic liquid mixtures decreases with increasing temperature as for pure organic liquids. The rate of fall varies from one system to another and may differ for different temperatures. Excess internal pressure is a powerful tool for predicting intermolecular interactions in homogeneous binary liquid mixtures. It varies with temperature and composition of the binary liquid mixtures. However, it is unable to accurately predict the type of interaction.

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A LINK-CHANNEL OCCUPATIONAL SITE OF ACHEULIAN MAN, UPPER KRISHNA VALLEY, KARNATAKA

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UPPER Krishna valley has proved less fossiliferous and implementiferous in comparison to other peninsular river valleys. The earliest report of fossils from the valley is from the Gokak area[1]. It was after a lull of about a century, that a few more fossils were reported from Nittur[2]. Later discoveries from Borkhal and Dhom dams[3] added to the faunal list in the subsequent years. However, no Acheulian sites have so far been reported from the Deccan Trap region of the Krishna valley, in association with fossil-fauna remains. The present communication reports the first finding of Acheulian artefacts from Yedurwadi, in association with vertebrate fossils.

The Acheulian tools were discovered in the link-channel of river Krishna near Yedurwadi (16° 35′ 42″N and 74° 45′ 42″E) in the course of a geomorphic investigation. The site is situated south of Shirguppi in the Belgaum district of Karnataka (figure 1).

The link-channel of Krishna has exposed older fluviatile deposits. The stratigraphical column (figure 2) illustrates brown silts (sandy-silt) with calcretes at the base. These silts continue for about 5–7 metres below the present channel floor. From the upper part of this lithounit a fossilized tusk of *Elephas* sp was collected. Indurated sandy-pebbly gravel, rich in laterite pebbles unconformably rests over the basal brown silt. This indurated unit is also marked by lenses of fissured clays, 10–15 cm thick. Overlying this is a kankar-rich brown silty layer with occasional and dispersed pebbles. This fine member is overlain disconformably by about two metres of thick indurated sandy-pebbly-cobbly gravel. At the

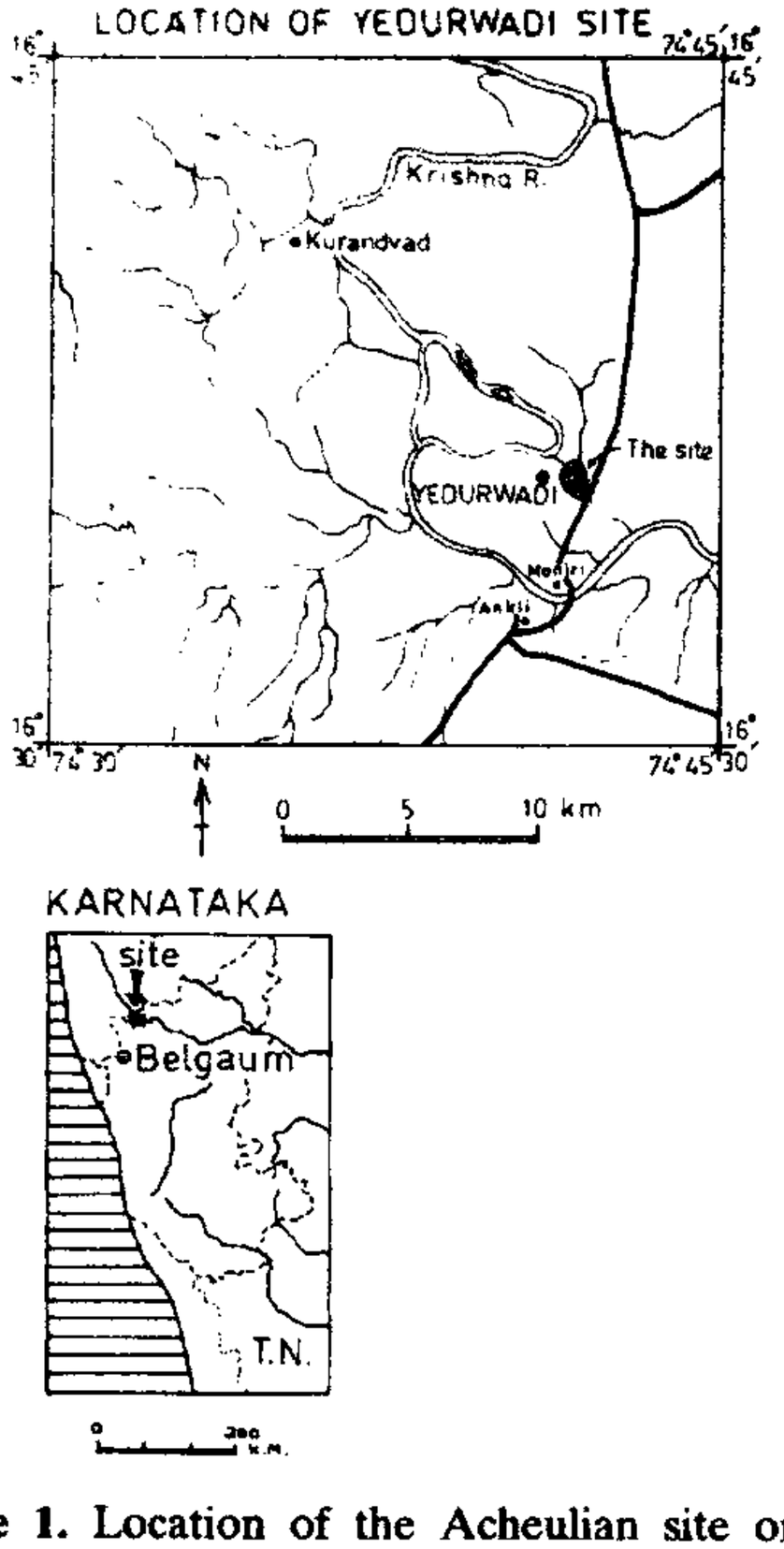

Figure 1. Location of the Acheulian site on the link-channel of river Krishna.

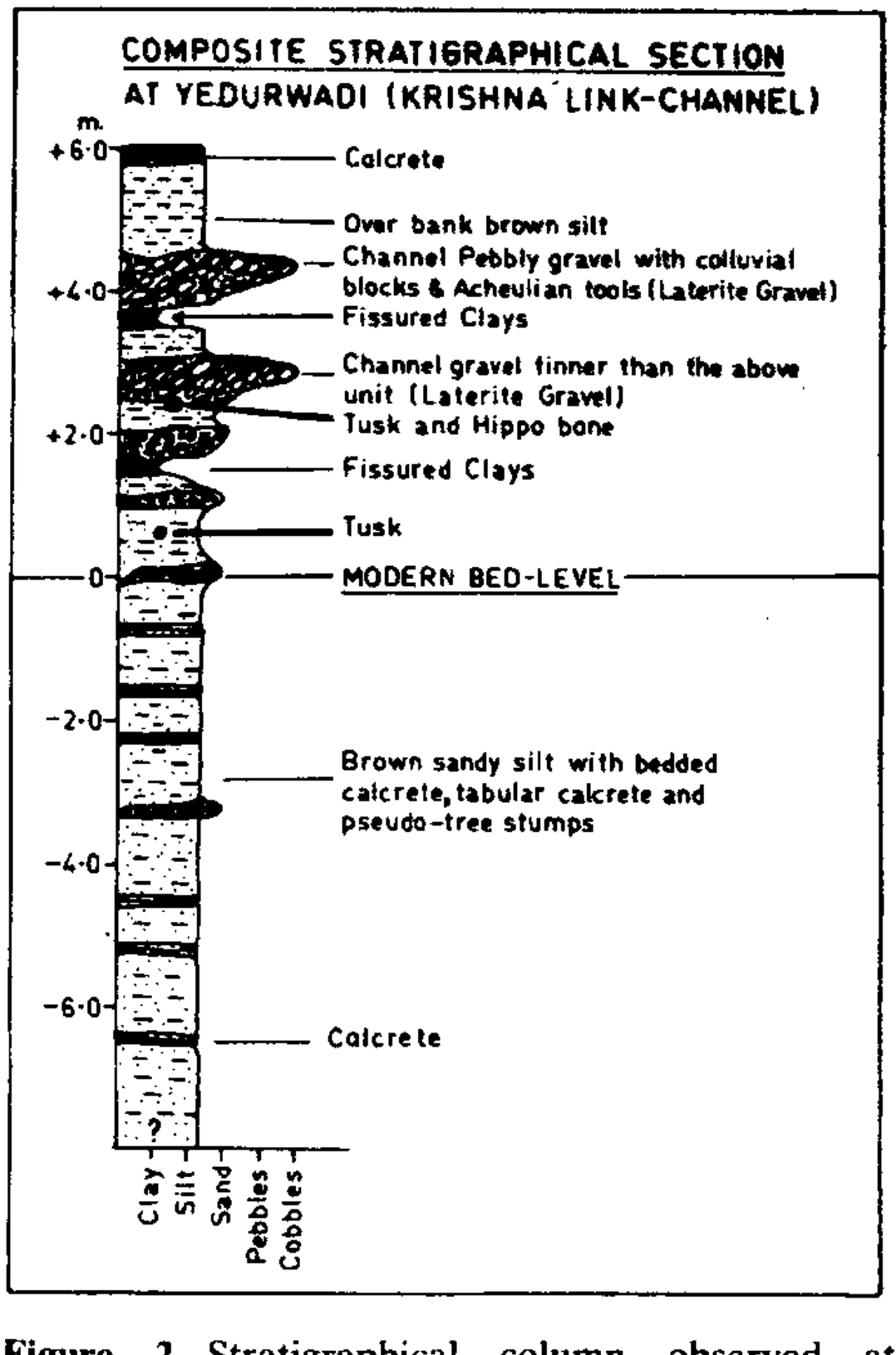

Figure 2. Stratigraphical column observed at Yedurwadi.

contact of these two lithounits a fossilized scapula of *Hexaprotodon* sp and fragments of tusk of *Elephas* sp were collected (figure 3). The sandy-pebbly-cobbly gravel consists of weathered and unweathered colluvial blocks of basalt, well rounded and polished laterite pebbles and Acheulian artefacts on compact basalt. The uppermost unit is brownish overbank silt (similar to the basal unit) capped by thick (10–25 cm) bedded kankars.

The fossil remains of hippo and elephant suggest that the channel banks were covered by relatively thick vegetation and the channel was marked by stagnant water pools, during the aggradational phase. The abraded fossil fragments collected from the sandy-pebbly gravel suggest that they are transported. Texturally also, the fragments correspond with the grain size of the sediments. However, the fossil tusk from the brown silt implies its primary context because it is embedded in almost vertical position and is texturally misfit in the silty lithounit. Nevertheless, it would be premature to comment whether the abraded fossils are transported from the main channel of Krishna or rolled down from the adjoining pediments or reworked and deposited in the link channel. Detailed work in this respect is proposed in future.

The artefacts collected from the site are made on compact basalt, rich in plagioclase, augite, volcanic glass and opaque iron minerals. The tools are mostly rolled and occur along with colluvial wash. These characteristics further supplement the secondary nature of the site. A few fresh and unrolled artefacts might indicate, either the primary context of the tools or their relatively less transportation. The tools collected from the link-channel, in all comprising eighteen artefacts made on compact basalt (density around 2.8), include both finished and unfinished artefacts (figure 4). The finished artefacts include two cleavers, four handaxes, one flake chopper and a broken denticulate. The cleavers are thick and made on flakes. They have U-shaped butt and are marked by shallow flake scars. Handaxes are bifacially worked, pointed and with U-shaped butt. The unfinished tools include three amorphous cores

Figure 3. Fossilized tusk of *Elephas* sp (left) and Scapula of *Hexaprotodon* sp (right) from Yedurwadi.

Figure 4. Acheulian artefacts from Yedurwadi.

and four flakes (two side- and two end-flakes). The discoidal and amorphous cores have small and big flake scars with deep to shallow negative bulb of percussion. The flakes are thick with secondary flake scars on the dorsal side. As a whole the assemblage represents Acheulian, perhaps late Acheulian.

Geomorphologically, the older deposits occur in the form of an inlier, surrounded from three sides by mid- to late-Holocene sediments in a localized depression of a valley pediment, drained by the link-channel of river Krishna. On the basis of the fossil-fauna from the site and radiometric dates of the older deposits from other parts of Western Upland Maharashtra[4], the fossiliferous and implementiferous sediments of Yedurwadi can be tentatively assigned a late Pleistocene age.

The finding of hippo from Yedurwadi, is a noteworthy addition to the faunal list of Western Deccan Volcanic Province, as it extends the geographical extent of the animal further south of river Ghod.

The discovery of the Acheulian artefacts from the Deccan Trap region of Upper Krishna valley proves the potentiality of the area. Nonetheless, the specific typological and chronological interpretations must await the discovery of primary sites and datable assemblage from this part of the Krishna valley.

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INCIDENCE OF G-6-PD DEFICIENCY IN THE VARIOUS ETHNIC GROUPS OF JAMMU REGION (JAMMU AND KASHMIR STATE)

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GLUCOSE 6-phosphate dehydrogenase (G-6-PD) is an important enzyme found in the human red cells, granulocytes, lymphocytes, platelets, liver cells, etc. It catalyzes the direct oxidation in the pentose phosphate pathway, converting glucose-6-phosphate to 6-phosphogluconate and maintaining glutathione in the reduced state (GSH). The latter is vital for protecting haemoglobin, red-cell membrane and enzymes of the red-cells from oxidative damage[1]. The deficiency of this enzyme in red blood cells is