



Historic England

Tudor Harbour And Early Trackways Tintagel, Cornwall

Peter Herring

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TINTAGEL, CORNWALL TUDOR HARBOUR AND EARLY TRACKWAYS

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Like the Research Report on the enhancement of the 1984 RCHME survey,
this report is dedicated to the memory of the late
Professor Charles Thomas



Frontispiece: Plane-table survey of the Tudor quay, March 2015

SUMMARY

Remains of an early harbour on the beach of Tintagel Haven, noted in 2014, have been surveyed and interpreted as that built by Sir Richard Grenville as a commercial speculation in the 1580s. It was shortlived but its remains add another layer to the Tintagel narrative. Pursuit of the routeway that served the Tudor harbour led to consideration of earthworks in the steep valley south of the late medieval castle and to an appreciation that two trackways, one zigzagging up from the harbour to the castle and another approaching from inland Cornwall, appear to be early medieval in origin. The zigzag track, constructed in association with two ditches, the Great Ditch and a newly discovered outer ditch, appears nicely designed to have its use controlled from the post-Roman citadel. It may be interpreted as an element of a port-of-trade, a context for the well-known archaeological and artefactual evidence of unusually intense activity on Tintagel Island.

CONTRIBUTORS

Fieldwork was undertaken by the author and Catherine Parkes and research by the author. Drawings were prepared by the author, Philip Sinton and Hannah Kennedy. Photographs are by the author, except for Figs 20 and 30, by Steve Hartgroves, formerly of Cornwall Council, and the frontispiece, by Catherine Parkes. Susan Greaney, Mark Bowden, Jeremy Ashbee, Professor Sam Turner, Catherine Parkes and Jacqueline A Nowakowski commented on drafts of this report.

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DATE OF SURVEY

Fieldwork was undertaken in March 2015 (the ruined harbour) and March, July and October 2016 (trackways).

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INTRODUCTION

Tintagel, a heavy squarish promontory, solid and strong, is attached by the feeblest, most attenuated and uncertain rocky ridge to a point where the dark and hard north Cornish coast changes direction, from north-north-east to north-east (Figs 1 and 2). That angle means the coast to its east is out of view when approached by sea from the south-west, from within Port Isaac Bay, and the flat-topped Tintagel 'Island' appears rather like what it once was, a continuation of the broad coastal plateau. However, with its narrow col separating it from the main mass, the headland now has an eye-catching and unforgettable silhouette. What makes it doubly distinctive is its association with the startling sugarloaf island called Otteral, or Gull Rock, lying less than two miles to its south, off Trebarwith Strand (Fig 2). An early sailor searching for what they had heard was an almost-island just beyond a sea girt pinnacle could not be mistaken when first seeing Tintagel.

There are sandy and shingly strands to the south at Tregardock and Trebarwith where a boat or small ship may have been beached, but they are open and exposed and therefore vulnerable to the fury of the westerlies that regularly drive the sea hard into the cliffs. One of the few coves that offer shelter from such gales is the tiny Tintagel Haven immediately east of the great headland. Two others within a few miles to the east were Bossiney Haven and Boscastle Harbour.

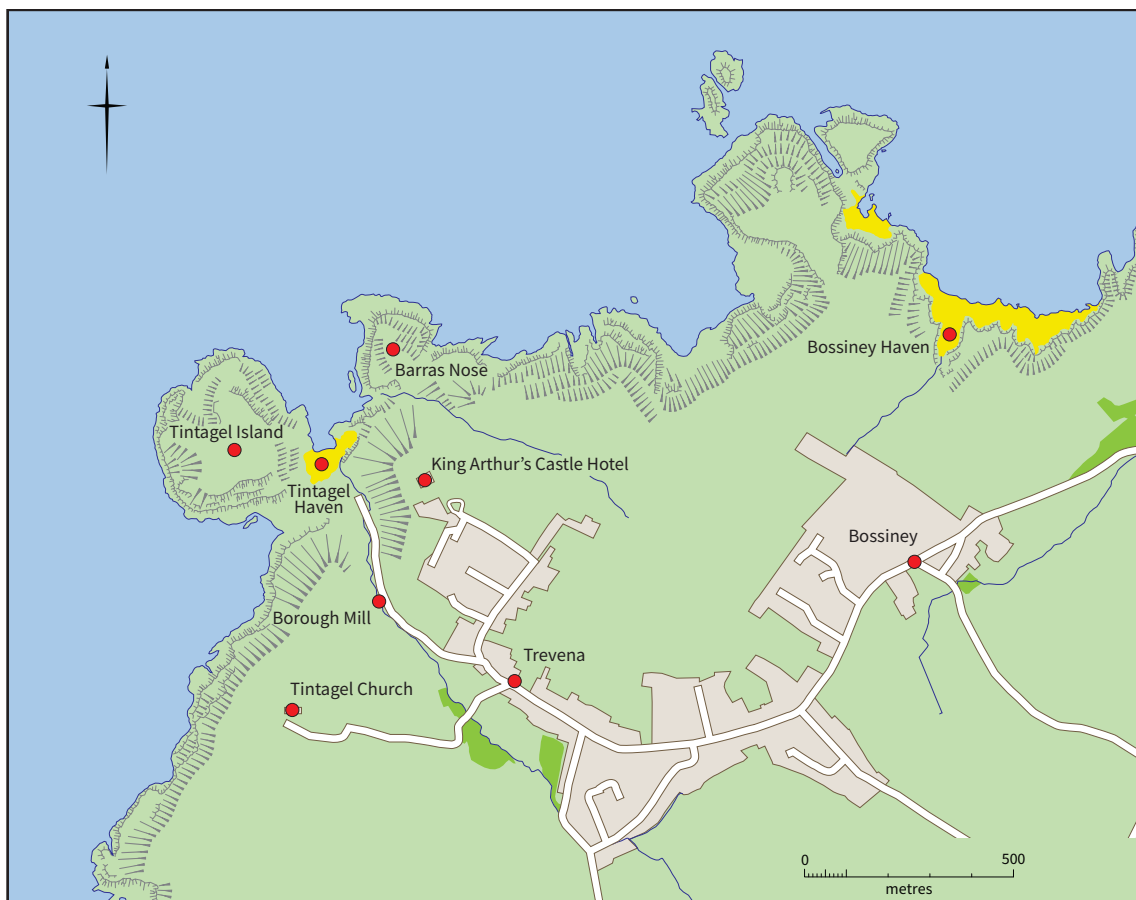


Figure 1: Principal locations including Tintagel Island, site of a post-Roman complex and later medieval castle and Tintagel Haven in whose south-eastern cove lie the remains of a Tudor harbour.

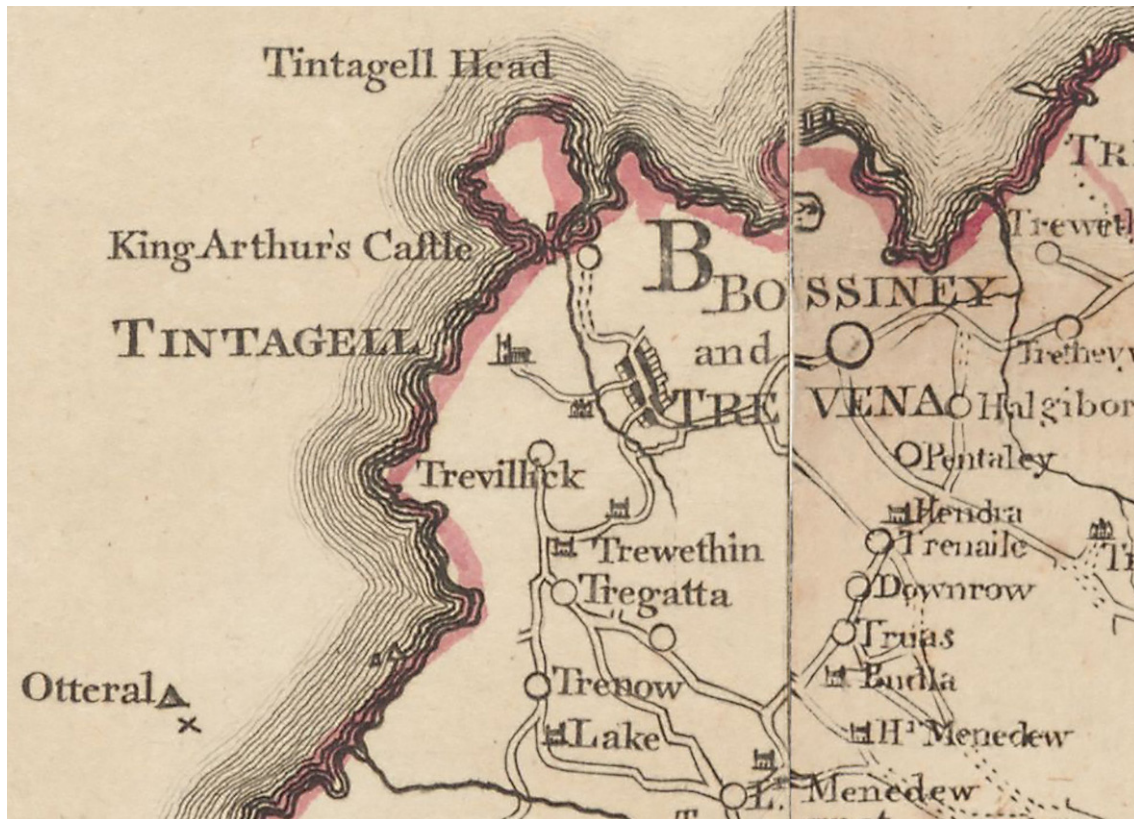


Figure 2: Detail of Thomas Martyn's 1748 map of Cornwall showing Tintagel Island as Tintagel Head. The small town of Trevena and the borough of Bossiney are shown as are numerous early medieval farming settlements, many with tre-names and most still small hamlets (shown as open circles) in the mid-18th century. Note too the distinctive island called Otteral, passed by all those approaching Tintagel from the south-west. (Courtesy of the Harvard Map Collection)

Above, on the discontinuous coastal plateau running from St Gennys to the Camel estuary, over two kilometres wide in places, is long-established farmland, with an even scattering of farming hamlets whose names have early medieval origins, mostly in tre, 'small farming estate' (Trevena, Trevillick, Tregatta, Treknow, Trebarwith, Trethewey, Trevalga, and many more) (Preston-Jones and Rose 1986, fig 3; Turner 2006, fig 34). Their 'Anciently Enclosed Land' was first worked in later prehistory (Herring 1998; 2011); enclosures and fields are seen as cropmarks on aerial photographs (eg Young 2012). Cliff top rough pasture was for thousands of years a valuable resource shared in common and it is likely that for many hundreds of years sea weed and sea sand were brought up from cove and beach to be spread on the fields' acid soils to sweeten them.

Archaeology, history and pseudo-history contribute greatly to making Tintagel special. Hundreds of thousands of visitors each year take away personal memories influenced or distorted by the narratives created by generations of archaeologists, historians and story-tellers. So much is peculiar, enigmatic and even unique, and thus difficult to resolve, that Tintagel is inevitably a contested place in terms of understanding what happened there and what that meant in the past and might mean now. All interpretations of the place are vulnerable to being appreciated and extended in ways their authors may not have expected.

On at least one occasion magical means may have been employed to enable a person to reach the Island (when Merlin assisted Uther Pendragon; see below). Historically, people, with their goods, knowledge and messages, moved or were transported to and from Tintagel physically, by water and over land. This report concentrates on the archaeological remains and historical interpretation of these means of communication – by studies first of a harbour and then a network of tracks. It may contribute to future reviews of the narratives now being transmitted through modern technologies (smart interpretation panels, sculptural and hologramical reconstructions or inventions, and web-based material and discussion), and it may throw a little light onto the world in which magic was able to either happen or be believed.

IDENTIFICATION AND SURVEY OF AN EARLY HARBOUR

When the tide was low in the early afternoon of the 27th August 2014 Peter Herring, Mark Bowden and Susan Greaney (all then employees of English Heritage) explored Tintagel Haven beach during reconnaissance in advance of the enhancement of the 1984 survey undertaken by Norman Quinnell and Martin Fletcher of the Royal Commission on the Historical Monuments of England (RCHME) that forms the main subject of a second report (Bowden and Jamieson 2016). There they examined two parallel lines of upright stones, which they had earlier that day noticed from afar, from the high eastern slopes of the Island (Figs 3 and 4).

What they found were the remnants of the outer and inner faces of a structure running north-west to south-east, the remnants of a quay that had also served as a breakwater sheltering the tiny cove in the south-east part of the Haven and creating a rare safe harbour on the harsh north Cornish coast (Fig 3). In February 2015 Mark, with Elaine Jamieson, plotted the structure's general location as part of the enhancement survey (Bowden and Jamieson 2016, fig 33).

The following month Pete Herring and Catherine Parkes (Archaeological Projects Officer with Cornwall Archaeological Unit (CAU), working in her own time) used a plane table, alidade and tape to plan the site, stone by stone, at a scale of 1:100 (Fig 8). Heavy winter seas had torn away much sand and shingle revealing more of the structure than was visible that February, notably the carefully set packing stones



Figure 3: View eastwards from Tintagel Island into the small cove, part of Tintagel Haven, where footings of the harbour can be seen to the right of A, the peninsula known as Black Rock with bollard sockets at B and the rock-cut track to the beach at C.



Figure 4: Remains of quay as inspected by Mark Bowden (red jacket, beside inner face) and Susan Greaney (in green and grey, to his left) in August 2014.

that linked those inner and outer faces. Also newly observed was a line of large stones set along the outer south-west face of the quay and beyond that a curving line of uprights retaining further areas of packing stones (Fig 5). At the north-eastern rear of the beach another patch of vertically set packing stones, probably remnants of a beach-head wharf, was planned. Two post-medieval hullies (water filled and originally lidded hollows in the bedrock formerly used for live storage of caught lobsters, crabs etc) were also surveyed. In addition notes were made on rock-cut features on the cliffs immediately north-west and south-east of the cove

which appear to have been directly related to its use as a harbour. The north-western features were later sketch surveyed, in March 2016 (Fig 13). The complex of routeways on the steeply sloping valley side rough ground south of the Castle was also examined and sketch surveyed by Herring and Parkes on Sundays in March, July and October 2016 (Fig 21).

The ruined quay had been observed by archaeologists before; during a rapid identification survey of the valley and cove in 2003, Neil Craze and Dick Cole of CAU recorded 'a series of large stones placed on end' in the area of the quay, and noted a set of rock-cut steps at their north-west end. No measured plan of either feature was made, but Neil recommended that they be surveyed. He thought they might be either medieval or early 20th century (Craze 2003, 13-14, sites 1 and 2).

DESCRIPTION AND INTERPRETATION OF THE REMAINS

The remains of the harbour are located at SX 05187 89123 in the intertidal zone in the small cove (60m long by 30m wide, maximum dimensions) that forms the north-eastern arm of Tintagel Haven, sometimes known as 'Porth Hawn' (Thomas 1993, 38 and 43; Fig 3). Like most north Cornish coves, it is fairly inhospitable. A small bare rocky peninsula (70m long, 25m wide, and up to 15m high) that marks the sheltering north-west side is irregular and has few naturally level surfaces, even in those parts that were not subjected to quarrying in the early modern period; its top also overhangs slightly as it runs along the beach. This peninsula was called Black Rock on a postcard of c 1920 (Judge's, ref no 7583) and that name is used here to help readers orientate descriptions of features. Tall slope-over-wall cliffs falling increasingly steeply from the 85m high headland, on which the late-19th-century King Arthur's Castle Hotel stands, form the cove's south-eastern side.

The floor of the cove is made up partly of irregular low slaty shelves with uneven pitted surfaces that include some rock pools, and partly of stones and boulders. Like many Cornish coves it has a varying partial covering of sand, its depth and extent dependent on removals and depositions by stormy seas. Those seas continue to work away at the cliffs themselves and a collapse has occurred on the south-eastern side of the cove, where the cliff has been undermined and several enormous boulders have slumped down and forward, partly filling it (Fig 3). At the inner north-eastern end the sea has worn three caves into the exposed slaty cliffs (Tredorn Slates; Selwood and Thomas 1993); the northern cave has been completely eroded through to the cliffs to the north-east of Black Rock, making a subterranean passage to the cove between it and Barras Nose, a larger rounded headland further north again.

The largest of the two examples of rock-pools trimmed by fishermen to be equipped with wooden lids and used for securing live lobsters and crabs caught in pots, known in many parts of coastal Britain as 'hullies', is on the south-western extremity of Black Rock; the other is in the heart of the cove (Figs 8 and 33). They may be presumed to be post-medieval.

The remains of the stone quay survive in the mouth of the cove. On each occasion it has been visited for this project it has been covered by differing depths of sand and shingle, being most fully exposed on 8th March 2015, when the plan was made. The most striking elements are the closely spaced lines of vertically set slabs that form the surviving short lengths (just 4 metres long) of the outer (south-western) and inner (north-eastern) faces of the quay (Fig 5). Most of the facing stones are water-rounded slabs (to 1.4m long, 0.2m wide) of local blue-grey slatestone, presumably obtained from the haven's beach; a few are more massive undressed blocks of quartz rock (to 1.0m long, 0.6m wide and up to 0.7m high above the beach), again probably sourced locally, there being veins of quartz in all the surrounding cliffs.

There is no sign of mortar in the surviving fragment, but as the faces are both securely bedded (and withstand severe treatment from storms that throw large stones and small boulders around the beach) it probably does have mortar binding the stones at depth. Shelving bedrock is visible immediately to their north so it seems



Figure 5: Details of the ruined quay viewed obliquely at low tide from the Black Rock peninsula, to its north-west. The person carrying the ranging pole and accompanied by a dog (top left) is passing the rounded south-eastern end, beyond the short surviving stretches of the inner and outer faces. Outer sea defences of set quartz blocks (buttress stones) and kerbed cobbled area are also visible.



Figure 6: Surviving remains of outer face of quay, viewed from west. Ranging pole is 1m long. The tops of quartz blocks placed as a sea defence against the feet of the upright stones in the face are also visible.



Figure 7: Detail of the vertically set and closely fitted packing stones between the two faces of the ruined quay; the remnants of the inner face being visible towards the top.

likely that the surviving stones form the basal courses. Between the two faces the core of the quay's wall was formed of tightly packed vertically set smaller slatestones (0.25 to 0.5m long) carefully placed, all with their long axes perpendicular to the quay faces and with individual stones fitted tightly behind facing stones. Facing stones were therefore set first and the packing stones mortared in second, as the quay was built (Fig 6).

The quay faces are exactly 6m apart, indicating an original basal width of this part of the quay of 19 feet and 8 inches. At the south-eastern end of each face are several facing stones set fanwise, forming the beginnings of arcs, indicating that the quay had a rounded end (Fig 8).

At its other end the quay would have been attached to the Black Rock, so it is possible to establish its original length, 21.1m (69 feet). As it approached Black Rock's cliff the quay would have been built on and over three natural shelves of slately bedrock that extend 3m, 6.5m and 12m from the cliff base. A deep rock pool immediately beneath the cliff on the highest shelf is divided by a 1.1m wide ridge of more resistant rock and it seems that this natural strongpoint was deliberately incorporated into the outer face of their structure by the quay builders, so establishing its position. A short stub of projecting rock on the middle slately shelf is also on line with the quay's outer face and again was probably incorporated into it. The highest innermost shelf has had a 1.1m high, 2.4m long recess or notch chiselled into it (Figs 8 and 9) to deepen and make more perpendicular to the line of the quay a natural step (noticed in April 2015 by Vaughan Upson, pers. comm.). The quay's inner face was once more

probably fitted into this recess. Together these features appear to indicate that the quay was c 4.5m (or around 15 feet) wide at this inner end: the quay narrowed away from the most vulnerable south-east end and also narrowed with height as its faces were no doubt built with a concave batter to help it withstand the sea, as was the case in many other quays in South West Britain.

It is fortunate that the curving end of the quay survives as from its position it is possible to establish not just its length but also the width of the harbour's entrance. The space to the base of the cliff from which several massive boulders have fallen is 8.5m, similar to that of other Cornish harbours whose entrances were made narrow to maximise protection of boats in the pool within: 7.5m at Portreath (inner), 8.0m at Portwrinkle, 8.5m at Polperro and at Porthleven (Inner), 9.0m at Mousehole, 11.5m at Mullion Cove, and 14.0m at Boscastle. The boulders fell at some date after

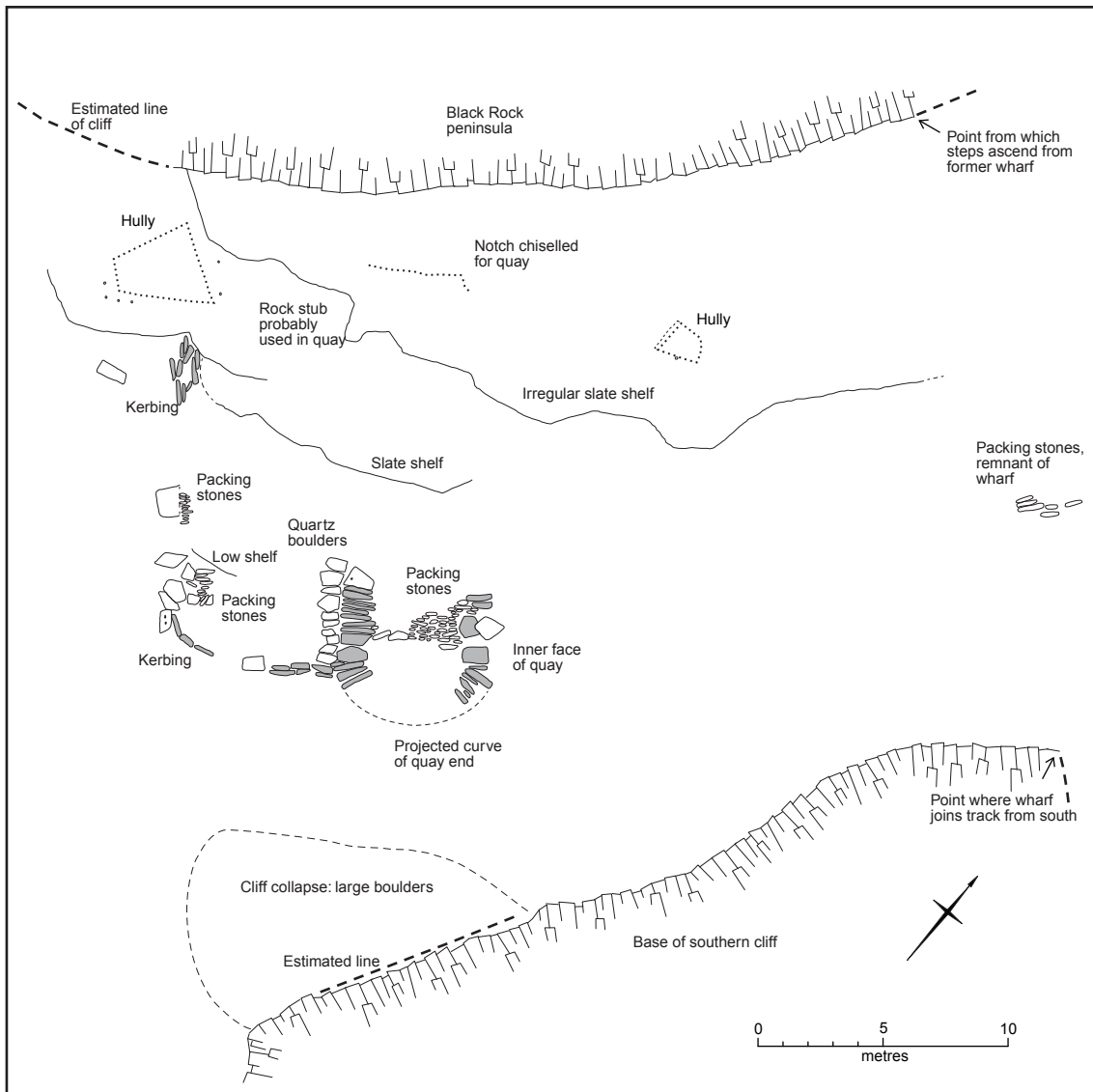


Figure 8: Plane-table survey of remains on the beach at Tintagel Haven. Upright structural stones (wall faces and kerbstones) are shaded; fallen uprights and packing stones are not. The lines of the northern and southern cliffs are shown, as are three natural slate shelves. A notch chiselled to take the quay and two later hullies are also plotted. See Figure 16 for interpretation.



Figure 9: Notch cut to accommodate the quay (see Figure 8 for location). Ranging pole is 2m long.

the Tintagel harbour was created; when it operated the south side of the haven had a continuous and fairly smoothly weathered rock face alongside which boats could enter the harbour with minimal danger of colliding with jutting rocks.

The most reliably safe line of approach of a boat or small ship to the harbour at high tide might have involved passing close to the east side of Tintagel Island (along the nearly vertical cliffs below the Iron Gate) and then past the south-western side of the small rocky islet in the centre of the Haven before running along the southern side of the cove and so into the water sheltered and quietened by the breakwater quay (Stella Jones, pers. comm.; Fig 10). That rocky islet has a socket with square plan cut into its top, presumably to hold a bollard that would double as a warping device (for manoeuvring larger vessels with ropes) and as an indicator at high tide of the presence of the islet, a significant hazard for boats entering or leaving the Haven. Another warping bollard survives low on the cliffs of the Island, a little way south of the Iron Gate (Mark Bowden, pers. comm.) and the sockets of two more bollards have been recorded on the rocks below the Iron Gate (Thomas 1993, fig 32; Bowden and Jamieson 2016).

It is not possible to model from its partial remains the whole original form of the quay wall, but the relatively narrow width (6.0m) compared with some other early post-medieval examples suggests that at its top there was room for just a simple parapet above a walkway studded with bollards for mooring ships and boats. Where



Figure 10: The Haven at high tide viewed from Tintagel Island and showing how the top of the wharf reached by the rock-cut pathway would have been just a little above normal high tide. Ships and boats probably passed to the west (right) of the hazardous islet in the centre of the cove before running beside the low cliffs to enter the harbour.

south-western quays have raised walks above lower walks total widths are several metres greater, as at the 17th-century Clovelly quay (11.8m; Hoskins 1954, 370), the 16th-century Hartland Quay (between 7.5 and 12.0m; Nix and Myers 1987) or the 18th-century western arm at St Michael's Mount (9.6m; Herring 1993, 130-134). There are no signs of steps climbing from the Tintagel quay onto the Black Rock peninsula to its north-west (though there are steps to it from the wharf at the head of the beach; see below) so it may be assumed that the quay was high enough to allow people to step directly onto the peninsula from the quay's walkway.

On the quay's seaward south-western side are remains of two lines of sea defences (Figs 5 and 8), indicating that the quay's builders or users recognised that it was at risk of damage from the heavy seas whose force is concentrated on the Haven by the shape of the larger, outer cove between Tintagel Island and Barras Nose. Placed against the quay's outer face is a 4.3m long line of 11 closely spaced and well-set heavy quartzite blocks, up to 1.0m long, 0.7m wide and standing just 0.4m above the beach (Fig 6). A more complex outer sea defence comprises a curving kerb of vertically set large rounded slate stones, to 0.8m long and up to 0.4m high. It starts where the quay's western face begins the curve of its rounded end and runs south-west for 6.5m before turning north-west and running roughly parallel with the quay to end at a natural angle of the middle slatey shelf. Here the kerb is a massing of ten

large slatestones up to five stones thick (Figs 5 and 8). This appears to have started as a simple line against which several slabs were later placed in a vain attempt to protect a failing structure. Other large slabs lying either on or near the line may have originally been part of it but have been uprooted by the sea. The kerb is of irregular height and could not have supported a superstructure; instead it formed a strong edge to a 6.5m wide floor mainly formed of bedrock but has in its south-western half two areas of vertically set packing stones forming a gently sloping area of cobbling.

These defences prevented the sea worrying away at the base of the quay. If the area within the outer kerb was either naturally paved or artificially cobbled and maintained a fairly evenly sloping plane, ending at the foot of the quay, it might have dissipated some of the sea's force. Several kerb stones have small holes drilled into them, probably for lead plugs for metal straps binding the structure together.

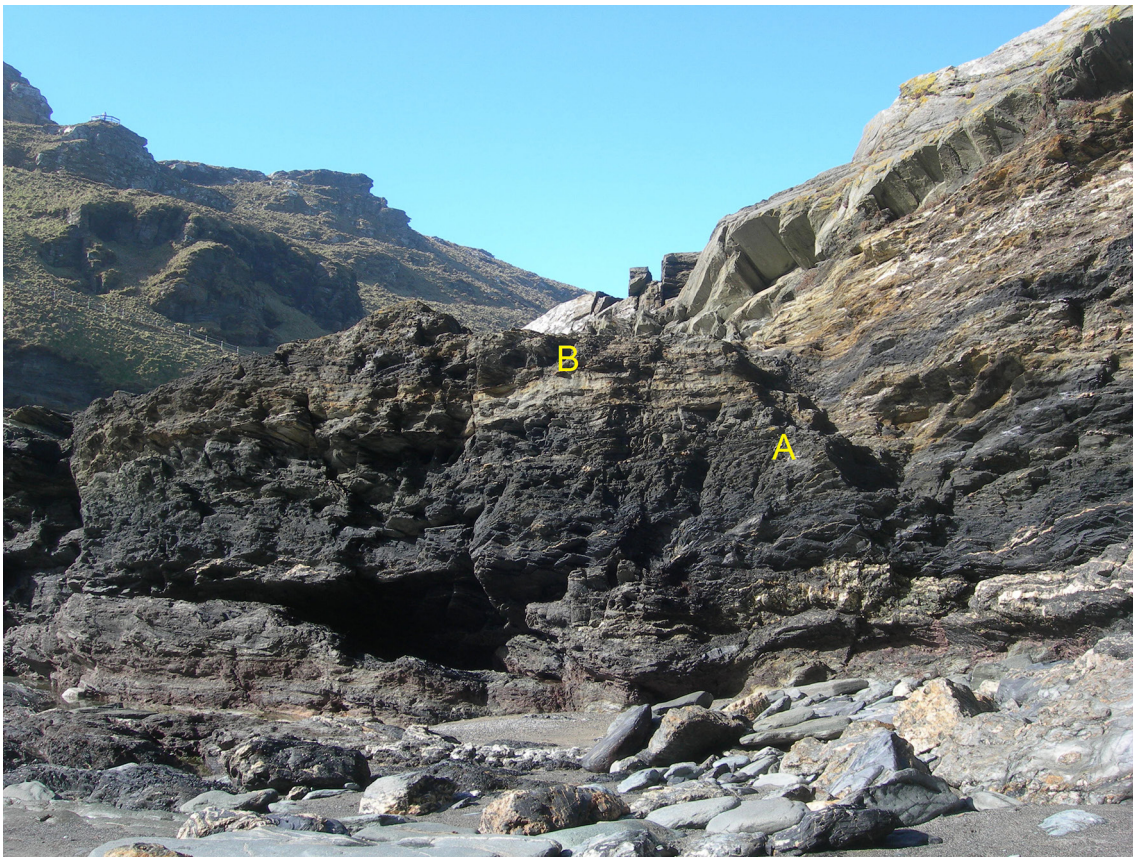


Figure 11: The low slightly overhanging cliff of Black Rock on the north-western side of the harbour showing the angled semi-circular sinking into which steps were cut (to the right of A), and the roughly levelled platform that probably supported a building (above B).

At the rear of the harbour is an area of closely packed vertically-set blue-grey slatestones all aligned north-east to south-west, as if filling in behind a now lost face that would have stood at a maximum distance of 21m from the inner face of the quay and would have been roughly parallel with it. This was most likely a wharf, a built floor where goods from boats or small ships protected by the quay could be loaded or unloaded. Quay and wharf are likely to be contemporary as neither would have functioned well without the other. The wharf has ways to it and thence the

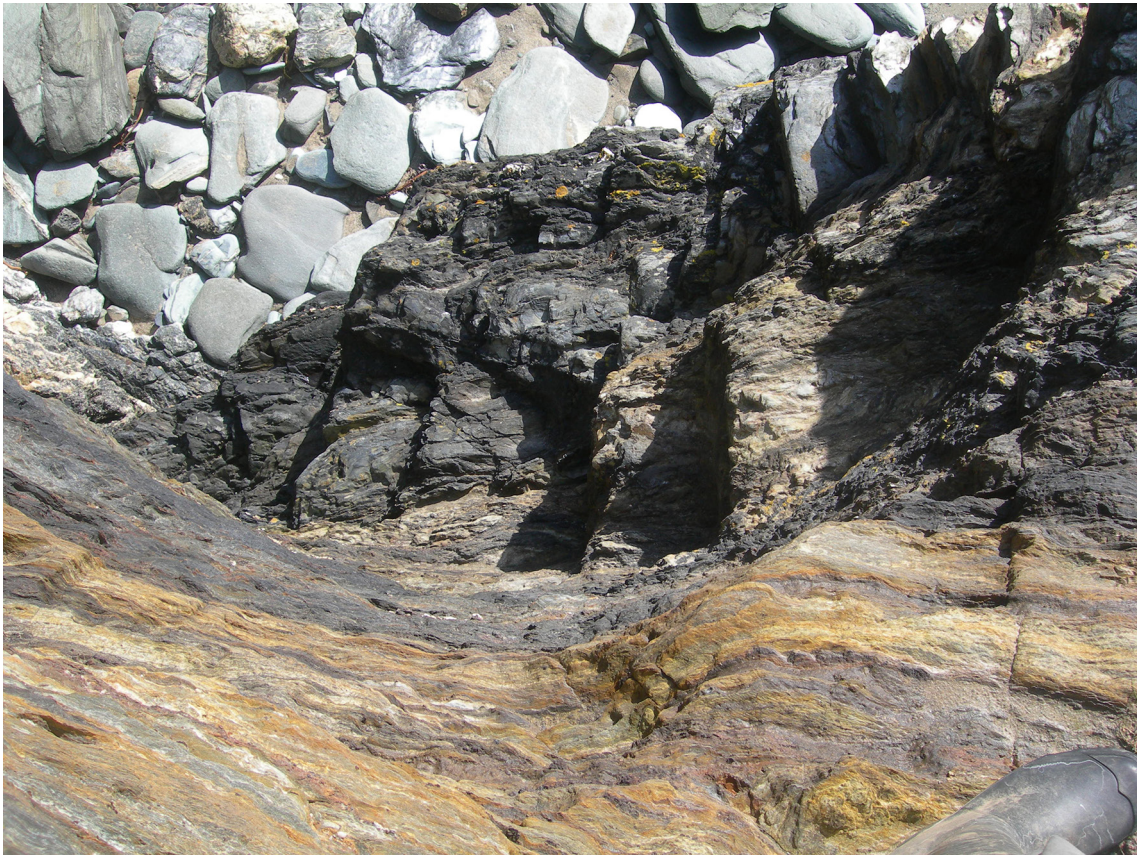


Figure 12: Looking down onto the roughly cut rock steps set within the sinking shown in Figure 11.

beach from both the mainland to the south (via a narrow rock-cut pathway) and the Black Rock peninsula to the north (via a flight of narrow steps). Neither route, in its original form, would have admitted a wagon, so movement of goods to and from the harbour would have been on foot, by person to the north or by person or packhorse, or donkey, to the south.

The lowest seven of the ten steps climbing from the wharf on to Black Rock are within a steeply-angled roughly semi-circular sinking chiselled c 0.8m into the natural rock face (Fig 11). The sinking is c 1.6m wide and climbs from a point c 3.0m above the present beach level. Each roughly-cut step is c 0.5m wide, 0.4m high and 0.3m deep (Fig 12). Three further steps lead onto an artificially levelled platform, sub-rectangular, c 6.5m by 3.6m, probably the site of a small building of indeterminate age, possibly associated with the quay complex (Fig 13). The platform has an uneven floor into which a number of small circular holes were drilled, possibly for wooden-framed partitions, or for holding down a simple derrick for lifting and lowering boats that was later installed here, visible on several postcards from the 1920s (eg Frith 69657, 1920). A straight slot (0.3m wide, 4.1m long) cut into the surface of the rock, running south-west from near the centre of the western side of the building platform with two small circular holes in its base may also have been associated with this derrick.

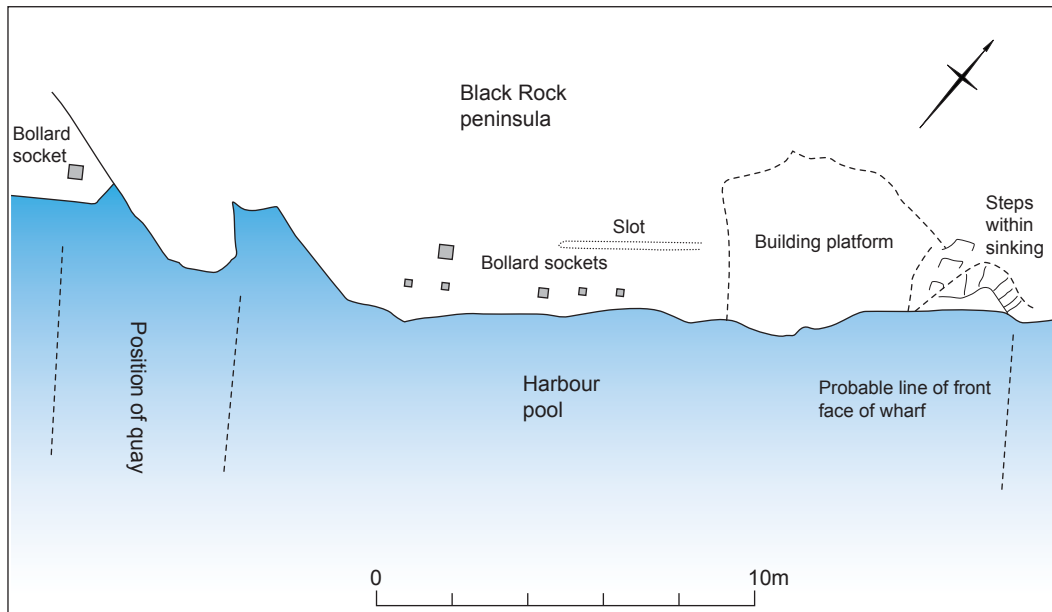


Figure 13: Measured sketch plan (offsets from a straight line) of the surface of the low cliff of the Black Rock peninsula, the harbour's natural north-western wall and a form of raised wharf. Steps, building platform, rock-cut slot and bollard sockets (shaded squares) are shown in relation to the quay and the lower beach-head wharf.



Figure 14: The western four of the line of bollard sockets shown on Figure 13. The nearest has grass growing from soil that has gathered within it. Another square bollard socket recorded at the top of the islet visible in the cove beyond was probably originally used in the warping of ships into and out of the harbour and was reused in the 1920s as the anchor for a cable employed in lifting boats into and out of the sea.

Along the south-eastern edge of Black Rock, above the area of the harbour pool, between quay and wharf, are several rock-cut features. Set 0.4m from the brink is a line of five sockets, 0.22 to 0.3m (9 to 15 inches) square, 0.2 to 0.38m (8 to 15 inches) deep, mainly 0.8m apart (Figs 13 and 14), presumably for timber bollards to which ships or boats were moored; their spacing is similar to that of the bollards still in use at neighbouring Boscastle. A more substantial sixth, 0.36m (14 inches) square and 0.5m (20 inches) deep, was set back 0.7m north-west from that line.

The largest socket of all, 0.38m (15 inches) square and 0.6m (2 feet) deep, would have contained a quite massive timber, presumably taking a greater strain than the others. This is set on a small natural platform directly on line with the outer face of the quay. It may have held another bollard or possibly a crane, perhaps relating to later use of the harbour for the slate trade. To protect boats and ships within the harbour pool the quay must have been several metres higher than high tide, perhaps as high as the platform on which this bollard or crane stood, c 6m or around 20 feet above the beach. This would be comparable in height to most surviving Cornish medieval and post-medieval quays. A parapet wall along the quay's seaward side would have added to the protection of vessels in the harbour and to people working on the quay itself.

The principal access to the harbour was by a narrow track established a few metres back from the cliff edge that ran down from the northern end of the Trevena Stream valley to the easternmost part of the beach (Figs 3, 15 and 16). Partly terraced and partly excavated through the base of the cliffs, it is now in places c 3.8m wide, but was clearly widened through blasting in the post-medieval period – long, drilled charge holes can be seen in the rock faces to its north and south. An earlier, probably original, width appears to have been c 2.2m, as indicated by the more even and smoothly worn central part of the passage.

Four small notched steps cut into a steeply sloping slippery rock as this route turns north to reach the present beach are hazardous and surely could not have formed part of the original way. (They may have been provided, along with a lost rope or rail, for the use of visitors staying at King Arthur's Castle Hotel.) The line and height of the rock-cut passage's north-eastern end, c 3.0m above the level of the present beach, were probably set by it being designed to end at the south-east end of the beach-head wharf, which must therefore have also been c 3.0m high and ran across the whole of the rear of the beach to the lowest of the steps up on to Black Rock. This is approximately the level of the highest tides observed during the several visits made for this survey (Fig 10). Because of sea level rise caused by isostatic rebound, tides in Cornwall are now around 1 metre higher than in Tudor times, suggesting that the wharf and the goods and boats upon it would have been secure at most high tides.

The wharf was a substantial and spacious storage and working area probably designed to accommodate a slipway allowing smaller boats to be drawn up from the harbour pool in stormy weather and lowered back down in calm (Fig 16). Any use made of the three natural caves further extended the wharf's capacity. A sloping rock within the largest northern cave has a wrought-iron ring fixed to it at c 4.0m above the cave's floor, probably only usable when the wharf was in place. Another large

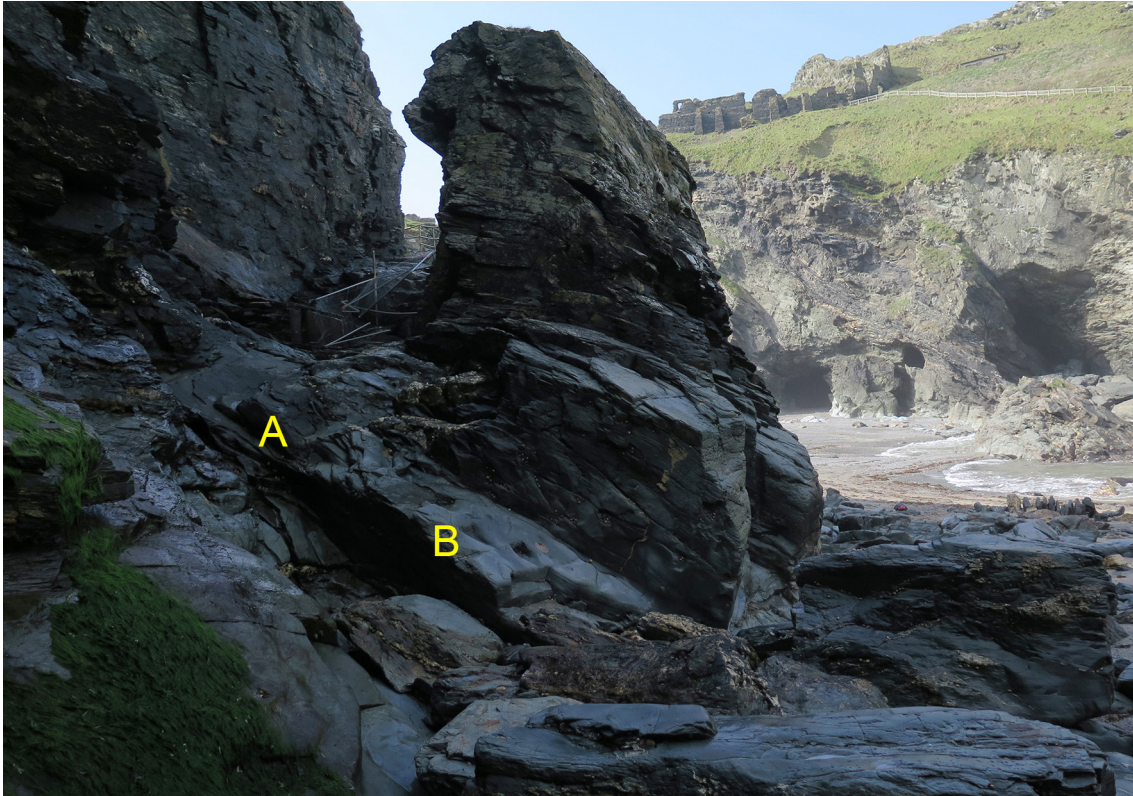


Figure 15: The deeply cut trackway, chiselled from bedrock, that provided packhorse access to the wharf. Note how its fairly uneven floor ended at A, c 3m above the beach (at the level the beach-head wharf would have reached) and how later users have chiselled notches (B) to make climbing a sloping rock face more manageable.

square bollard hole was cut into the natural rock at the angle of the wharf and the rock-cut trackway.

A number of wrought iron posts, rings and pins have been fixed on Black Rock, some possibly for use in warping, some in safety fencing as this peninsula became one of the places from which early modern visitors appreciated Tintagel Castle (several Victorian and Edwardian photographs and paintings contain views of the Island made from here). Others may relate to the period when the higher north-eastern half of the Black Rock was quarried for slatestone, leaving a roughly ragged surface, or to the use of the peninsula in the early 20th century for storing one or two boats, as shown on postcards of the 1920s (eg Judge's 7581). A tall timber, steadied by props and guys, was at the same height as a matching one set up on the easternmost of two 19th-century whim platforms on the south side of the cove. That timber pole was equipped with a simple winch, shown on other 1920s postcards (such as Judge's 7589) and still in place (Sturgess 2004, fig 10). A similar winch may have been used with the upright on Black Rock. They wound running wheels suspended from taut cables run to short bollards on the islet in the cove and at the eastern angle of the rock-cut track that joined the wharf at the rear eastern end of the cove (see above). From these wheels small boats were suspended and so lowered into the sea and raised from it.

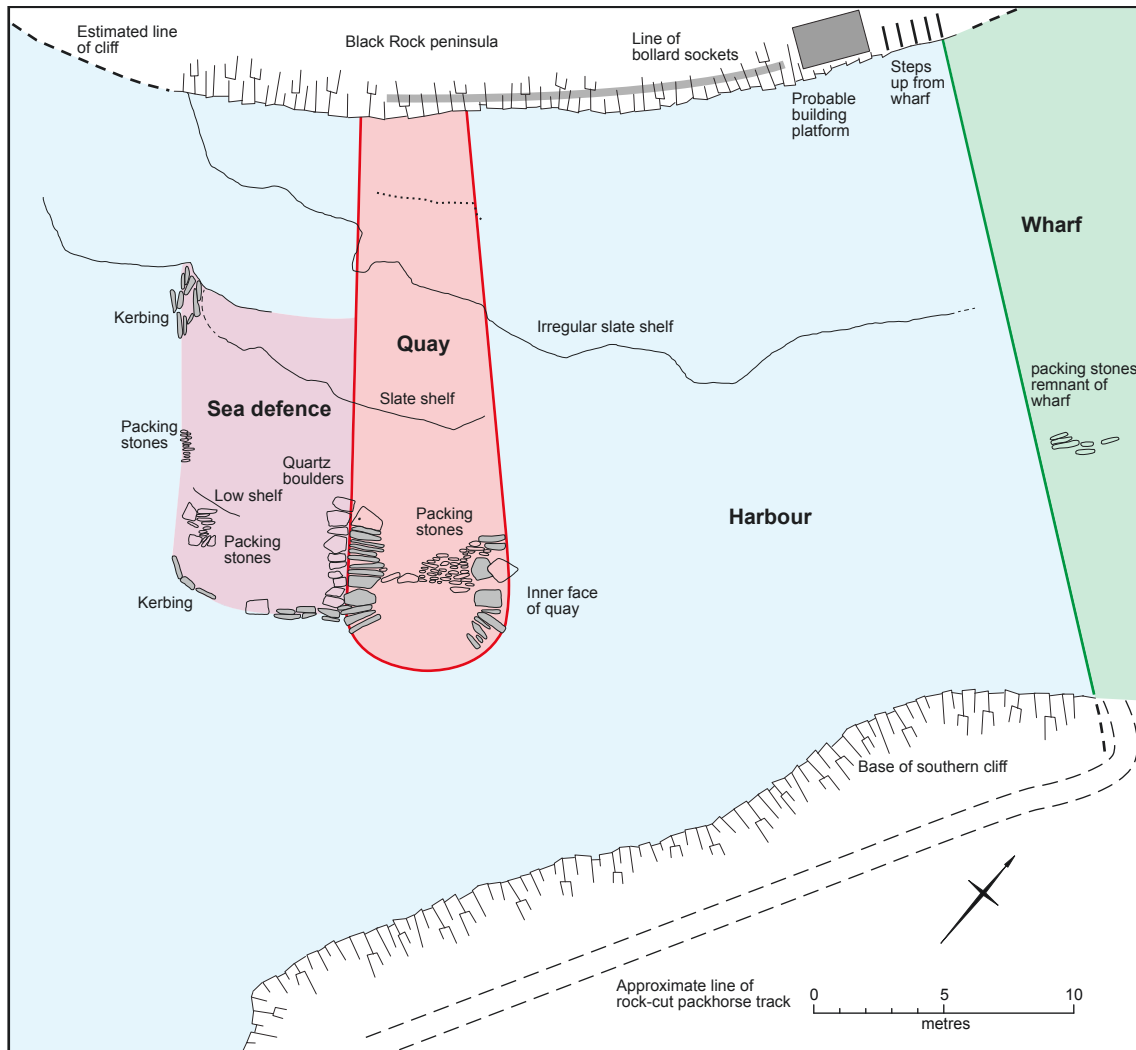


Figure 16: The survey interpreted, showing the quay, sea defences and wharf, and the harbour filled with blue water. Features beyond the surveyed cliff edges have been sketch plotted; see Figure 13 for a plan of bollards and other features on the raised wharf along the north-western, Black Rock side of the harbour.

Fortunately the quarrying work on Black Rock, which may be supposed to be post-medieval, did not reach the south-eastern edge of the peninsula and so did not affect the bollard holes, but it has removed any evidence of a trackway approaching from the north-east.

DOCUMENTATION AND FURTHER DISCUSSION

The archaeological survey has enabled the modelling of an ambitiously designed harbour that might, if it had become established, have made Tintagel an important base on the north Cornish coast.

While documentation for Tintagel Island is extensive (being a property of the Earldom and Duchy of Cornwall and, from at least the 12th century, being associated with stories of Arthur and of Tristan and Iseult), that for the Haven is slight and for the harbour minimal.

There are indications that the Haven was used by later medieval fishermen. The Caption of Seisin of the Duchy of Cornwall of 1337 notes under the 'Castle, Manor and Borough of Tyntagel' that 'Each boat in the port of Boscini [Bossiney] renders 2s. per year. And this is worth in usual years half a mark' (Hull 1971, 32; Kowaleski 2001, 306) while an Extent of the Duchy of Cornwall of 1345 included for 'Tintagel', 'Profits of boats. And each boat of fishers mooring in the port of Tintagel renders per year 2s, and it is usually worth 10s per year' (Kowaleski 2001, 311). The render of 2s per boat each year for the 'ports' of both Tintagel and Bossiney suggests that they may have been one and the same and have related to a length of coast rather than any particular landing place or harbour on it.

It is not inconceivable that Tintagel Haven and Bossiney Haven were each used as landing places in the 14th century, and an early zigzagging track (for which see below) indicates an interest in reaching Tintagel Haven by at least as early as the castle period (largely 13th and 14th centuries).

Jeremy Ashbee has brought together and where necessary translated into English those medieval documents related to Tintagel, principally the castle (Ashbee nd). These show how materials were brought in to repair buildings within the complex in 1306, 1343, 1382-3 and 1387. Only one out of the 14 cargoes recorded came by sea: the timber for making 15 three-piece trusses for the stable roof, 45 lengths in all, was brought in 1306, 'by sea in a boat from Aldestowe [ie Padstow] to Tintagel' (Minister's and Receiver's Account, Cornwall, 34 Ed I; translation by Jeremy Ashbee). Each of the other 13 cargoes was brought overland, although on inspecting the records of those journeys it can be seen that none would have been more convenient if undertaken by sea. Four involved lime, one from Padstow via 'Blaketoye' [Blacktor] ferry, across the Camel estuary to Rock, and at least one from Lostwithiel. The inert raw material limestone was transported around the coast of south-west Britain by boat but the quicklime produced by its burning was highly reactive to contact with water and would have been most safely brought by cart. It was measured by the 'quarter', a fraction of a ton, derived from the largest cask, the tun, so one may imagine it being transported in casks and therefore carts, the Blacktor ferry perhaps being used on an especially quiet day. Over the 14th century 24 quarters were brought to Tintagel for use in building repairs. 'Carts' were certainly used in 1343 for bringing wood from Duchy land at Helsbury (a few miles south of Tintagel in Michaelstow parish) for use as fuel in casting lead, which was itself brought from Devon via Calstock, suggesting it was probably mined in the

nearby Bere Alston mines (for which see Mayer 1990). The lead, which amounted to a 'fother' (equal to 19.5 hundredweights, each of 112 pounds) was brought by seven horses and seven men, each presumably carrying around one seventh of a fother, or 312 pounds, suggesting they were powerful horses, not ponies. They may be imagined moving across eastern Cornwall to Tintagel as a packhorse train. Tin for use in soldering the lead was brought from Bodmin and sand for casting it (and for mixing with the lime) would have been carted from local beaches. Finally, four consignments of slates (16,000 pieces in all) were drawn from local quarries, possibly from as close by as the cliffs themselves.

However, there is no clear archaeological indication that a harbour had been built at either Bossiney or Tintagel before the Tudor period. John Leland did not mention any harbour when he described Tintagel Castle in the 1530s (Pearse-Chope 1918, 13-14). The 45 lengths of timber brought by boat in 1306 might have been landed on the Haven's beach or at the Iron Gate, a natural quay according to Professor Charles Thomas (1993, 41); certainly trackways led down to both places. A stable with 15 roof trusses must have been quite large and the 1337 Caption of Seisin of the Duchy of Cornwall noted that it accommodated eight horses (Hull 1971, 28). If these were stalled it would be reasonable to allow at least 10 feet for each, suggesting a building 80 feet long, the trusses (if supplemented by the two gables) therefore being around 5 feet apart. It seems most likely that such a building stood in the Lower Ward on the mainland as there was insufficient room within the Island's castle courtyard, and the Lower Ward would have served as a form of bailey, in which the stables would be most appropriately placed (see also Thomas 1993, 117). Hauling the 45 timbers from either the Iron Gate (via the Island courtyard and across whatever form of causeway or bridge existed between it and the mainland) or the Haven (up the cliffs and then up the zigzag track) would have been arduous work.

In December 1583 Sir Richard Grenville, on being requested by the Privy Council to assess the defences of Tintagel Castle (the Spanish threat increasing), rode there and produced a map-like drawing of the Island that identified potential landing places (Fig 17). He aimed to underline the threat posed by such landings to the already decayed castle but, perhaps, also sought to emphasise the potential of the inlet as a place of trade. He drew two double-gunned circular 'bwolworks [bulwarks]' that 'are to be aded', one at each end of the wall of the Iron Gate (on the east side of the Island).

In his report Grenville noted that, 'By the works without this wall (being the landing place) foure or five of the greatest sortes of shipps may with most windes ride, and lay their sides to the works, and land anie companie of men; the water being there at the lowest ebb five fathom deep, and the ground in this bay before the rockes faire and sandy for a moringe' (cited in Wilkinson 1871, 233). Grenville reinforced this assertion by an annotation on his map: 'This baye is all fayer sandy grounde good to ancor in and thear is never lesse than five fathom of water at the loeste ebbe, shepes [ships] may ryed here all wyndes exsept the northwest' (British Library, Cotton MS Augustus I.ii, fol 43). See Thomas (1993, 41-3) for the Iron Gate landing place and Thorpe (2007; 2013) for an early pathway serving it.

Grenville's map-drawing showed no quay in the inlet where its remains survive, so it seems likely that the quay post-dated his 1583 visit. Two more descriptions of Tintagel from the turn of the 17th century also fail to mention a harbour at Tintagel. John Norden in his *Description of Cornwall*, from internal evidence probably drafted in the 1590s or early 1600s, made no reference to a harbour at Tintagel, though he concentrated his attention exclusively on castle and island, drawing them from the east. He did not show the quay, but did include the Iron Gate landing on the eastern side of the Island (Norden 1728, 55).

Richard Carew's *Survey of Cornwall* notes, regarding Tintagel Island, that 'The high cliffs are by sea unaccessible round abouts, saving in one only place, towards the East, where they proffer an uneasie landing place for boats, which being fenced with a garrotted wall, admitteth entrance thorow a gate, sometimes of yron, as the name yet continuing, expresseth, and is within presently commanded by a hardly clymed hill' (Carew 1603, 121r). This is of course another description of the Iron Gate, and again there is no mention of the quay or harbour in the Haven.

Fortunately the late Professor Charles Thomas had sight of a version of the *Survey* that had been annotated by Carew himself and would have formed the basis of a second corrected edition that was never issued. In this Carew confirmed by a marginal note the Grenville connection to the quay: 'The late worthy gent: Grayvile [Grenville] went about a very comendable work here to have made a kay [quay] the place so commodious apt ynough & ev'y way to ben behoofull as great pittie none now endeavour to performe the same etc.' (Thomas 1993, 41; see also Thomas 1964a). 'The late worthy gent: Grayvile' would have been Sir Richard as his son and heir, Bernard, lived until 1636 while Carew himself died in 1620.

Carew had devoted a section of his *Survey* to 'martiall men', in which '*Arthur* claimeth the first mention, a *Cornishman* by birth, a King of *Britaine* by succession' (c 1603, 61v), but which in the same paragraph also has Sir Richard 'Greinvile', a much more recent hero, who after adventures 'against the great Turke..., and his undertaking to people Virginia and Ireland... made so glorious a conclusion in her Majesties ship the *Revenge* (of which he had charge, as Captaine, & of the whole fleet as Vice-admirall) that it seemed thereby, when he found none other to compare withall in his life, he strived through a virtuous envy to exceed it in his death' (ibid, 62r). Grenville famously died in 1591 after being wounded when refusing to deliver the *Revenge* to the Spaniards at Flores, despite being outnumbered by 53 ships to one (see Rowse 1937, 300-320 for a modern glorification and Chynoweth 2003, 228 for a more recent and more critical, or perhaps more balanced, account of Grenville's actions).

From all this it seems most likely that the Tintagel quay was built sometime between 1583 and 1591 and possibly towards the earlier part of that period, when in 1584 Grenville was a Member of Parliament for Cornwall and in 1587 its Deputy Lieutenant (History of Parliament online). This was when the establishment of harbours to support trade on the coast that he knew best especially exercised him; he was born in Bideford and was owner of Stowe, a great house on the coast in the far north of Cornwall. This period would also have been before he became involved



Figure 17: Drawing of Tintagel Island made by Sir Richard Grenville in December 1583. North is broadly to the right and the disposition of features on the Island and the mainland part of the castle are remarkably accurately portrayed for such an early map. Attention is drawn to the generalised representation of the coast, save in one place, the small cove to the right of where the stream issues into the Haven, the cove that Grenville was shortly to utilise for construction of a harbour. His interest was partly military, 'theas ii bwolwarks [bulwarks] are to be aded' to 'the walle of the Iron gate' and he shows two rounded batteries (each with two cannons firing), and '2 Rampirs to defend the landing' at the northern end of the Island, the earthwork of one of which was surveyed by the RCHME (see Bowden and Jamieson 2016). But he was at least as interested in the potential of the place for landing men (and by implication goods). The northern 'rampirs' were directly above a grey rock labelled 'a place to land at' and to the immediate north-east of the Iron Gate he showed 'the roake [rock] to lande men onto of shipes [ships]'. In the roads of the bay between Barras Nose and Tintagel Island he has this: 'this baye is all fayer sandy grounde good to ancor in and thear is never lesse than five fatham of water at the loeste ebbe, shipes may ryed here all wyndes except the northwest'. (© British Library, Cotton Augustus I.ii, f.43)

in attempts to establish colonies in Munster and Virginia and then in 1591 was appointed a Vice Admiral under Lord Admiral Howard in the eastern Atlantic (see Rowse 1937).

Grenville is now an unassailable national hero, but was regarded by contemporaries as ruthlessly, entrepreneurially ambitious, quite intemperate and a little foolhardy

(Chynoweth 2003, passim; Marsden 2013). Son of the Sir Roger Greynvile who commanded the *Mary Rose* and died when it sank in 1545, Richard as a young man had killed a gentleman with his sword in a London street (Chynoweth 2003, 116; Rowse 1937, 54-5), fought the Turks under Emperor Maximilian, and by the early 1570s was working with Sir Humphrey Gilbert on plans to explore ‘sundry rich and unknown lands’. He may not have ventured to any until May 1585 when he commanded seven ships while colonising Virginia on behalf of his cousin Sir Walter Raleigh (Rowse 1937).

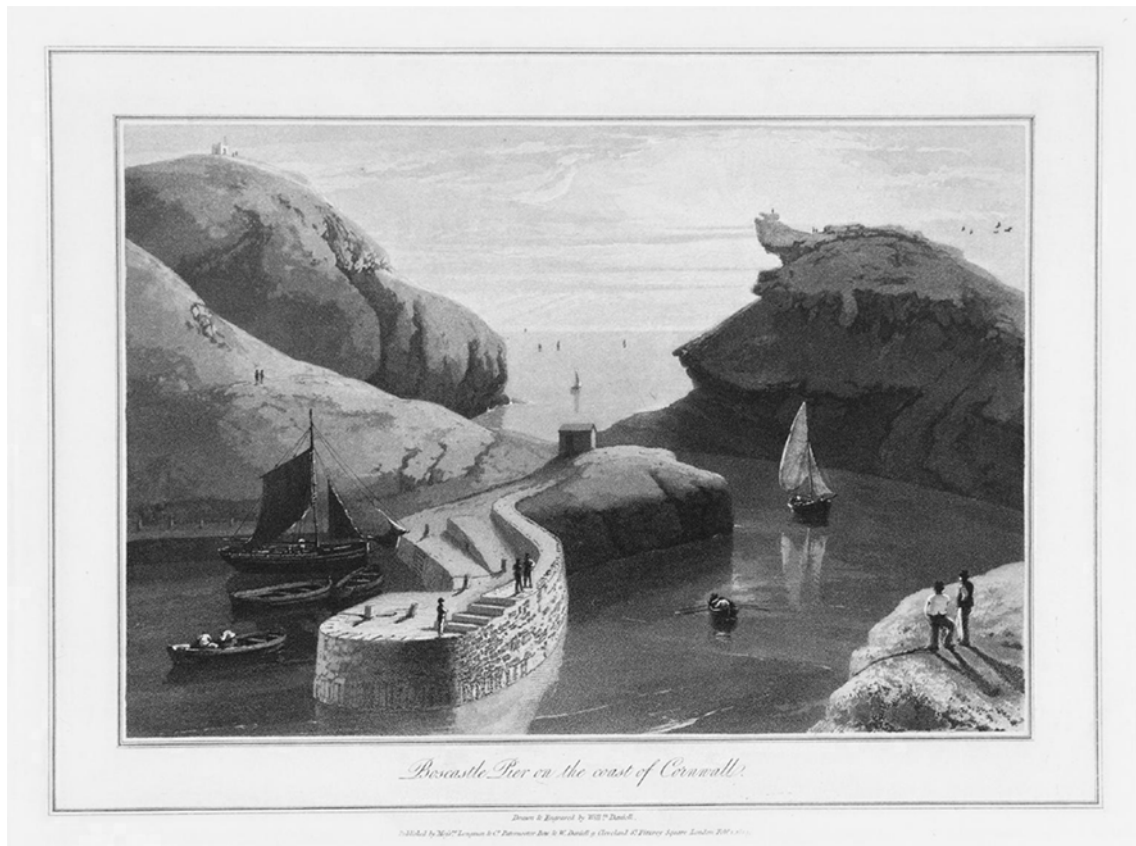


Figure 18: Boscastle quay, built by Sir Richard Grenville immediately before he constructed the quay at Tintagel, as drawn by William Daniell in 1813 (from Ayton 1814, facing p 18). Its rounded end, battered face (of vertically set stones), parapet wall and walkway are all reasonable models for what the Tintagel quay was like. Note also the evenly spaced bollards along the beach-side wharf to the left, also similar to arrangements at Tintagel.

Professor Charles Thomas suggests that the harbour’s builder may have recognised during his 1583 reconnaissance of Tintagel ‘a potential deep-water inlet that seemed to have been overlooked’ (Thomas 1993, 41). Grenville was responsible the following year for rebuilding nearby Boscastle quay which, like Tintagel, has a rounded end (Kirkham 2005; Fig 18) and was also employed in 1583 and 1584 as a commissioner for the works on Dover harbour, where innovations in mortars were being tested. This spate of harbour building in the early 1580s is the most likely period when Grenville was involved at Tintagel. To build Boscastle quay in the summer of 1584 he employed a ‘master’ and four ‘Keymakers’, plus four local assistants, four more drawing stones and eight labourers (Knight and Knight 2004,

39-41; Kirkham 2005, 16). It must be possible that Grenville redeployed some or all of these men at Tintagel. There is minimal artefactual evidence of Tudor activity on the Island (an Elizabethan coin and a sherd of 'Tudor Green' pottery; Cameron Moffett, pers. comm.) and this may be more easily related to the strengthening of its military defences than to the creation and use of the harbour.

It is not possible to establish when the quay failed. While the two outer lines of sea defences indicate that it was not immediate, the lack of later references to a Tintagel harbour suggests it was not very long after construction. It is possible that the thirteen sailors and fishermen recorded in Tintagel parish in 1626 (Bartlett 1996, 33-4) worked from the harbour and that it therefore stood for around forty years, but accounts and descriptions of Tintagel Haven from then on see it return to being one of the several hazardous landing places on the difficult north Cornish coast. There is, for example, no mention of a harbour or quay in the 1641 Parliamentary Survey of the Duchy of Cornwall (Pounds 1984), by William Hals in the late 17th century and by Thomas Tonkin in c 1710 (Gilbert 1838, 324). It is possible that John Norden did not include the harbour in his image of Tintagel, made at some time around the turn of the 17th century, because it had already been swept away.

The 1734 Buck Brothers engraving of 'the North View of Tintagel castle in the county of Cornwall' shows a single-masted open vessel riding placidly in the Haven, south-east of the wall of the Iron Gate, but no quay. Numerous other larger two and three masted vessels, the latter proper ships, are shown out at sea.

Thomas Martyn would have indicated a quay at Tintagel if one had still existed when making his 1748 map of Cornwall, but he did not; likewise the surveyors who failed to show one on the 1805 Ordnance Survey 2-inch drawing.

In 1815 JMW Turner produced the first and finest of the numerous 19th-century images of the drum winch used to raise and lower goods, including slate and small boats, from a strongpoint on the cliffs above the Haven (Fig 19, and as shown in his sketch of 1811; The Tate, JMW Turner, Sketchbooks, Drawings and Watercolours, D41308). Many Victorian and Edwardian visitors also described this industrial apparatus but few added detail. The Rev Francis Kilvert, who visited on 3rd August 1870, was more observant than most. 'The first place we came to was a cove with boats drawn up in it and a large cave piercing the cliff through. They have just begun mining for iron in this cliff'. Kilvert noted that a Mr Cook, deceased, of the *Saturday Review* had been buried in the churchyard. 'His boat in the cove seems now to be the property of Mr Kinsman, the clergyman of Tintagel, for it bears both names' (Maber and Tregoning 1989, 90). Tregellas (1878, 121-2) noticed the 'curious arrangements for dropping boats into the sea with cranes and chains'.

A survey of the strong points, whim platforms and other structures associated with the early modern slate exporting complex at the mouth of the Trevena Stream was undertaken by Joanna Sturgess of Cornwall County Council's Historic Environment Service in 2004 (Sturgess 2004).



Figure 19: Painting made in 1815 by JMW Turner, based on sketches made in 1811, showing the grandeur of Tintagel Island (only slightly exaggerated by the artist) in contrast to the hand-operated capstan used to lower goods (including the slates seen stacked in the foreground and on the trolley) and boats to the beach at Tintagel Haven.. (© Museum of Fine Arts, Boston)

Dinah Craik in 1884 knew the local name for the Haven, ‘...after a hasty meal, we found ourselves once more down at Porth Hern, seeking a boat and a man... under whose guidance we might brave the stormy deep.’ Craik and her companion found two boatmen who rowed them out round the rock (i.e. Tintagel Island), past slate quarrymen working on the precipitous cliffs, ‘moving about like black emmets among the clefts of the rocks, and heard plainly above the sound of the sea the click of their hammers’, and into a sea cave (possibly Merlin’s Cave, from the west side) (Craik 1884, 140).

Those slate-quarrying ‘emmets’ (Cornish dialect for ants) were doing dangerous work; one named Rush had been swept off by waves in March 1882 and in 1886 three more were boring a hole for blasting when the rock gave way, falling into the sea with the men on it (Barton 1974, 59 and 89). Their product, the famous north Cornish blue-grey roofing slates, was sent to distant British and European markets by rail and by sea. In 1906 slate was being drawn from Lambshouse Quarry, on the cliffs south of Tintagel, ‘The shipments are made at King Arthur’s Castle, but some of the slate is also dispatched from the London and South Western Railway station at Camelford’ (Hockady 1906, 522). From as early as 1861 the smack *Why Not?* (built in Bideford in 1851) was working from Barnstaple, ‘Much of her time was spent lifting cargoes of slate from the beach at Tintagel, which must have been a risky operation; but she lasted until 1911’ (Bartlett 1996, 241). A wooden bollard noticed by Mark Bowden fixed to the lower slopes of the Island south of the Iron Gate, north

of Merlin's Cave, was probably used in warping vessels such as the *Why Not?* in and out of the Haven, as might have been those bollards whose sockets have been noted on the tiny islet in the beach and at the angle between the wharf and the rock-cut hollow-way. See JMW Turner's famous c 1824 painting of a large ship being warped into Boscastle harbour (Ashmolean Museum, TW0707, Wilton 478). However, both those last two bollards, on the islet and at the angle of rock-cut hollow-way and the wharf saw use in the 1920s, as noted in the previous section. This was the last of the several means by which local people had tackled the difficulties of getting their boats into and out of the sea in the hazardous Haven.

It is unlikely that many larger boats, other than the occasional pleasure craft, have used Tintagel Haven since the smack *Why Not?* last departed.

APPROACHING THE HAVEN FROM INLAND: TRACKWAYS, TUDOR AND EARLIER

This section describes the southwards pursuit of the archaeological remains of the trackway serving the Elizabethan harbour in order to examine how it addressed earlier communication systems. As the harbour was a relatively late introduction to the Tintagel complex, it is not surprising that those who used it worked their access route into a pattern of pre-existing tracks. As no archaeologists appear to have examined these closely the following section contributes another strand to the developing understanding of post-Roman, later medieval and early post-medieval Tintagel.

Due to the heights of cliffs and depths and steep sides of the coastal valleys in this part of north Cornwall, it is difficult to reach Tintagel Haven from inland. The cliffs are susceptible to erosion so their early and later medieval forms cannot now be known with certainty, but all along this coast the sea rapidly sweeps away any loose material so that travellers set on reaching the Haven's beach and the sea have long had to negotiate hazardous descents down hard rock, either sheer cliffs or mounds of irregular boulders.

No hollow-ways lead to Black Rock, the low peninsula on the north-western side of the harbour cove; the only earthwork there is of a narrow wagon-way at its head, probably used to remove slate quarried from the small post-medieval pits and scoops excavated into the cliff slopes. Instead people left the Haven by its long southern side, negotiating the 10m high cliffs over which the Trevena Stream issues into the sea as a fine waterfall (Figs 3 and 10). The Tudor rock-cut trackway chiselled into the south-eastern cliff side described above is now closed at the boundary between National Trust and Guardianship land for safety reasons and the beach is reached by its south-western corner via the modern way blasted through the rocky ridge immediately west of the stream. In the 19th century this led to the timber wagon-way to the galena (silver-lead) mine opened by adits beneath Tintagel Island (see Thomas 1993, fig 27).

A complex of structures (including the English Heritage (EH) ticket office, exhibition room and café, the latter originating as the Victorian offices and workshop of the galena mine), obscures Tudor and earlier routeways and the bridge or ford that took people and goods from the eastern to the western side of the Trevena Stream. Evaluation trenching and watching briefs undertaken in advance of and during EH works here indicated that the area has been disturbed by activities related to roof slate quarrying and working and its shipment from the harbour (Lawson Jones 1994; 1995). Thomas Martyn showed by an open circle a 'village' (or hamlet) here on his 1748 map of Cornwall (Fig 2), presumably an early representation of the stream-mouth slate industry.

Historically there was no easy way out of the valley along its precipitous and rocky eastern side. The roughly metalled access lane running from Trevena (now 'Tintagel' town) is early modern. First recorded on the 1748 map prepared by Thomas Martyn (Fig 2), and also shown on the 1805 OS 2-inch drawing, it seems to have been



Figure 20: Aerial photograph showing the Island and Haven and the lines of tracks and other earthworks, including ditches, to the south (left) of the remains of the 13th-century Tintagel Castle. An early medieval ridgeway (above A) made for the Island. It was attached at B to an earlier lane to cliff-top commons. As the topmost stretch of a zigzag track (C) was cut through by the upper end of the Great Ditch at D it is at least as early as the 13th century. It is associated with a second, outer ditch (left of E) and with a kink in the long southern side of the Great Ditch. The track was drawn up to an outcrop of rock at F which was cut back to allow passage for packhorses and which served as a pinch-point (see Figure 22). Three later medieval tracks cut through the shaped sides of the zigzag track: a tightly curving link (right of G) to the barbican that guarded the 13th-century castle's entrance; a trackway, possibly wide enough for carts to the Borough Mill (H); and another later, broader track (J) that cuts through the earthwork of the zigzag track at its lowest bend. (Photo by Steve Hartgroves, Cornwall and Scilly Historic Environment Record, F77-037, 8th August 2007; copyright reserved)

established in the mid-18th century to support export of slate and involved blasting away part of a ridge of natural rock near the Borough Mill that had previously prevented movement down this side of the valley (Thorpe 1996, 9); charge holes are visible in the ridge's ragged rock faces. Two now overgrown tracks or paths created to link the valley with the late Victorian King Arthur's Castle Hotel (1890s) were first recorded on early 20th-century OS maps. It seems likely that until the mid-18th-century breach was made all travellers, including those using the Tudor harbour, left the Trevena valley by its western side; this is itself steep and ridged and studded with rock outcrops and there appears to have been little choice regarding the route taken.

The valley above the Haven and below the crests of its steepest sides, north of the Borough Mill, has seen no disturbance from agriculture and only sporadic pitting from slate quarrying and metal prospection so historic routeways survive well as linear depressions either deliberately excavated down to bedrock or to durable subsoil

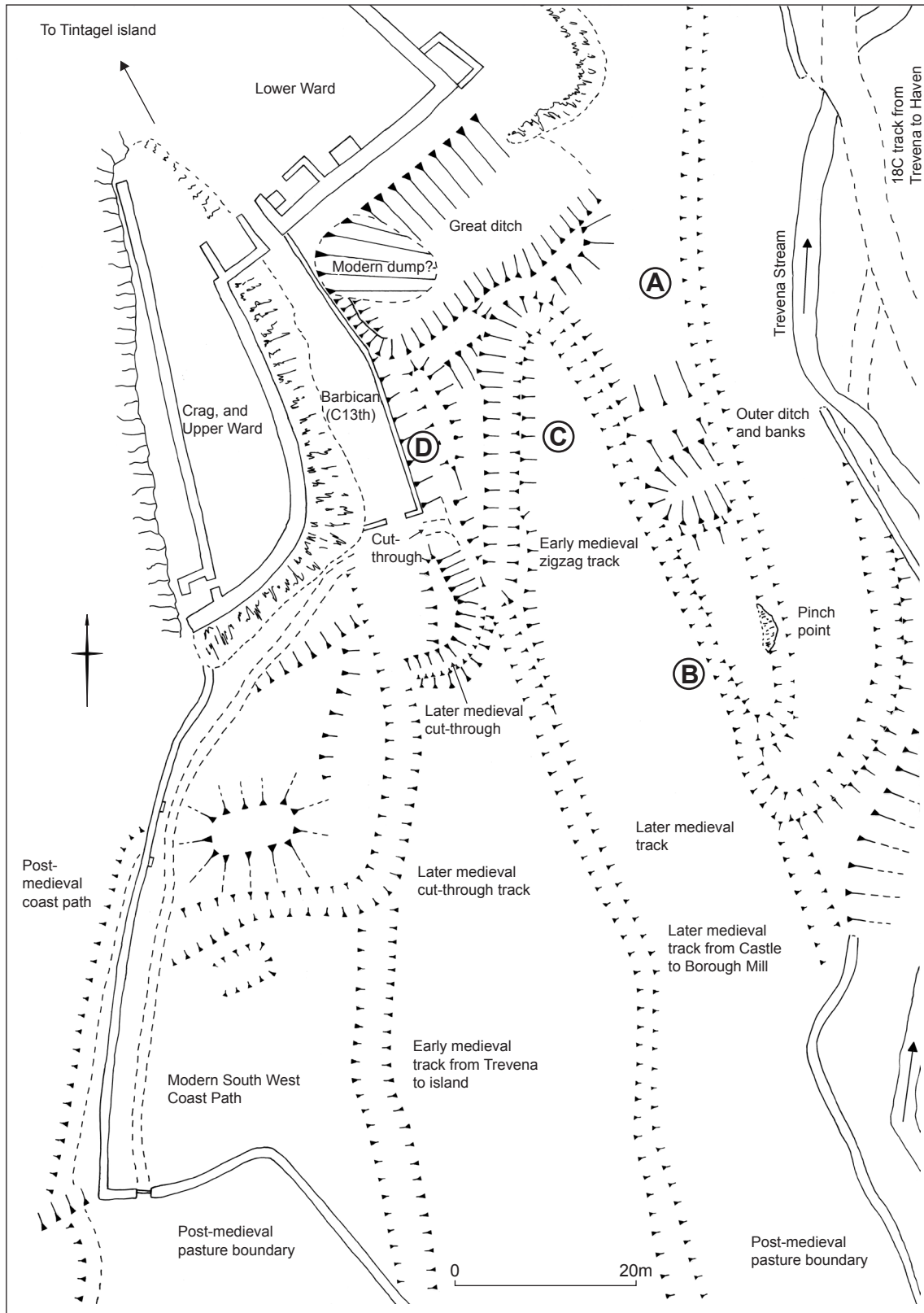


Figure 21: Earthworks south of Tintagel Castle; measured sketch survey using 1887 OS 1:2500 base. See Figure 27 for interpretation.

or as hollow-ways worn into the thin soils and slaty rock. Only one climbs these western slopes, the zigzagging path between the EH visitor complex by the Trevena stream and the castle's mainland entrance (Figs 20 and 21). This is sufficiently even, in terms of the form of each of its four fairly straight stretches (linked by three acute bends), to suggest that it was deliberately engineered rather than the product of gradual erosion; and as it does not feature in publications on historic Tintagel it seems that archaeologists working here regard it as a recent creation (eg Barrowman *et al* 2007, 156, where it is described as a 'modern footpath'). Examination of its detail, however, suggests that it is an early routeway, well-preserved despite having recently been re-surfaced. Its even gradient and width indicate that the track was designed for the use of horses, whether mounted or pack. The earliest depiction of the track so far uncovered is that by the Rev W Haslam made in 1847 (Haslam 1850, Plate XXI, on which it is labelled 'Winding Ascent'); it might be noted here that the 1842 Tithe Map for Tintagel unfortunately does not show un-hedged trackways anywhere in the parish and there is no known early estate map of the study area.

Each of the four zigs takes a slightly different form, reflecting its makers' responses to the immediately local topography. Their design and their relationships with other features help confirm or establish Tintagel's chronologies and contribute to understanding what people did at Tintagel, so each stretch is described separately.

The **lowest stretch** (A on Fig 21) is also the longest, now c 115m but originally 200m, running to the cliffs above the Haven; its northern 80 metres have been lost to modern changes in the area of the EH buildings. The surviving portion is a simple shelf 1.9m wide, cut c 1.5m deep into the steep slope. A 1.8m high natural rock outcrop 12m from its southern end (Figs 20, 21 and 22), would have blocked the track's way if it had not been chiselled back to create a curving concave profile that allowed passage for laden pack-horses while leaving the top of the rock projecting into the trackway (Fig 22). The remaining 1.0m of passage is just wide enough for a mounted horse proceeding with care: it may be a deliberately created pinch-point, a place where travellers might be stopped and checked. If a pinch-point had not been required the rock could have been cut back vertically to maintain the track's full width; furthermore, the rock could have been avoided altogether had the track been run just 2m further downslope.

Just 10m north of the pinch-point is a previously unrecorded outer ditch (Figs 20, 21 and 23), broadly parallel to the Great Ditch (to the south of the Lower Ward of the 13th-century castle). The outer ditch is 12.0m long and 10m wide and up to 2.2m deep, earth-cut, with a shallow V profile. The material excavated was dumped as low banks along its northern and southern sides, respectively 10 and 3m wide, 1.0 and 0.5m high. It may be an additional line of defence, comparable with the short outermost line of the three ditches and banks at Gurnard's Head cliff castle in Zennor. However, several features of the ditch suggest a different function, directly related to the zigzag track itself. The bank along the downhill eastern side of its second straight stretch overlies the ditch's two banks, but the track lacks a bank as it passes (on a slightly curving line) immediately above the ditch's 5m wide upper end, leaving travellers vulnerable to falling into the ditch. The lower end of the ditch also coincides with the line of the lowest first stretch of the track. These relationships



Figure 22: The lowest stretch of the zigzag track (A) was run to this rock outcrop, which was then chiselled to create a concave profile that allowed passage for laden packhorses but prevented easy movement for ridden horses.



Figure 23: The outer ditch viewed from below, from the lowest stretch of the zigzag track. The fence indicates the upper end of the ditch, coinciding with the second stretch or zig of the track. Above is the stone walling of the Upper Ward of the 13th-century Tintagel Castle, set on a natural crag from which the lowest stretch of the zigzag track could be viewed via the ditch.

indicate that the track post-dates the ditch, but three things suggest that the two are functionally associated and contemporary, the ditch dug perhaps just days before the track was cut.

First, the ditch is rather splayed in plan, its lower end (10m wide) being twice the width of the upper end, allowing people above it a wide view of the lower stretch of the track. Travellers passing along it would otherwise have been out of view, owing to the 'dead ground' resulting from the convex profile of the valley side here (Catherine Parkes, pers. comm.). Secondly, its position just 10m north of the pinch-point meant that those with an interest in travellers would be able to view them when they were either slow-moving or stationary. Thirdly, and most significantly, Catherine Parkes also noticed that the ditch is carefully positioned at a point where it enables the lowest stretch of the zigzag trackway to be visible from the summit crag on which the castle's Upper Ward was built (Fig 23). Post-Roman artefacts found near here suggest it was also part of the early 'citadel' (Thomas 1993, fig 59). The outer ditch's location and form meant that people standing on the crag's south-eastern corner could see who was moving along the most distant part of the track, and who was halted by the pinch-point (see sightlines plotted on Fig 29).

Further north the lower eastern part of the Great Ditch works in a similar way; its floor has been reduced here to the depth required for people standing on the same crag to be able to view travellers emerge from behind the large rocky outcrop above the harbour west of the Trevena Stream.

The trackway's **second stretch** (B on Fig 21), 1.5m wide at its base, is cut to c 1.2m deep on its uphill western side and to 0.7m on its eastern where a 2.8m wide bank runs alongside, to provide protection from slipping down the steep slope (Fig 24). Up to 1.9m high externally, this bank, as noted, rides over upthrow banks of the newly discovered outer ditch and does the same in relation to the upthrow bank on the southern side of the Great Ditch. The stretch begins at its lowest southern end at an acutely sharp bend, rotating 350 degrees, and its inner turning circle is just 3m in diameter. A bank 1.8m wide and 1.9m high externally curves around the outside of this bend protecting travellers from falling down the steep slopes beyond. It has been cut through in its south-western quarter by a later broader strongly-banked trackway that forded the stream about 100m to the north and appears wide enough (over 3m) to have accommodated a wagon. However, it is unlikely to have done so as the zigzag track it joins is not sufficiently wide. Instead, this outer track may have allowed numbers of riders to by-pass the pinch-point, which would, of course, have held up home riders as well as visitors. This track is quite early, probably later medieval, being made redundant by the building across it of a post-medieval pasture boundary, well-built with projecting coping stones preventing sheep from clambering over. The pasture boundary and the broader track also cut across a more amorphous hollow-way that ran down to the Trevena Stream from the same tight corner and appears to be a track by which animals based at the citadel were led to a watering place. It is presumably early medieval.

The **third stretch** (C on Fig 21), just 40m long, is the track's steepest. It starts at a bend less acute than the previous one (around 325 degrees) and with a more



Figure 24: Looking down the second stretch of the zigzag track (B) from near its higher northern end. The bank built along the downhill left-hand side of the track clearly rides onto the low rounded upthrow bank (middle left) created when the outer ditch (Figure 23) was excavated.

generous turning circle, 5m in diameter. This stretch has a 1.5m wide floor and a downhill bank 1.5m wide, 0.9m high. The cut on the steep uphill western side reaches 3m high. Another cut-away made to allow a view down onto track users involved removing 6.5m of the Great Ditch's upthrow bank to enable people at the southern entrance to the Lower Court, or before that was built, those immediately inside the Great Ditch to view travellers on the upper part of the track's second stretch. Of course, these viewing lines worked both ways; those coming up had exciting glimpses of the crag and the gateway area, and of people there.

A second *c* 325 degrees bend at the uphill southern end of the track's third stretch, which ends just below the crest of the valley, takes the traveller onto the **fourth and final stretch** (D on Fig 21) that rises gently as it runs north-north-west for 30m towards the castle entrance (Fig 26). This part of the track has the most complex relationships with other features. Analysis of them reveals much about the track's age and function, and about Tintagel's history.

The high sweeping curve of the bank forming the outside of the southern bend is likely to have originally been unbroken. The height of its western side (3m) screened southern and western views from the track, ensuring all travellers were certain of their destination: the castle, or its predecessor, the post-Roman 'citadel' (Fig 25).



Figure 25: The highest stretch of the zigzag track looking south from the edge of the Great Ditch; the third and steepest stretch is marked by the steps on the left. Two later medieval cuts were made through the sweeping curve of the carefully engineered bend (whose top is indicated by a yellow line), the track to Borough Mill (right of A) and the cut-through (left of B) linking to the early medieval hollow-way (D). The barbican protecting the gate to the Lower Ward of the 13th-century castle was reached by a third cut (C). The nearer stretch of the track was effectively made redundant by this cut through at C and was itself later cut through by the extension of the Great Ditch to run alongside the barbican (Figures 26 and 27).

The uphill western side of the sweep was crudely cut through by a narrow hollow-way that curves tightly and quite awkwardly over uneven rocky ground to the north-west to join the hollow-way that formed the track from mainland Cornwall to the 13th-century castle's Lower Ward (Figs 25 and 27). This track then passed through the long narrow walled barbican that extended the entrance to the castle to the south-eastern corner of the crag. The curving outer bank of the zigzag track's topmost bend is also cut, again quite crudely, by the narrow track running from the castle down to the Borough Mill, built beside the Trevena Stream and first recorded in 1286 (Thorpe 1996, 9). Here travellers had to step up 0.4m from the level of the zigzag track to reach the mill track (Fig 25). It may be that those using the Tudor harbour used this route when taking goods inland up the valley.

The zigzag track appears, therefore, to be earlier than the Tudor harbour and the later medieval mill, and the later medieval castle. A hollowed track on the Island, up to 2.0m wide, leading down to the Iron Gate's 'natural quay' from an early medieval terrace, also appears to be of the pre-Castle period (Thorpe 2007, 17-18; 2013, 252).



Figure 26: Looking north along the highest stretch of the track from the harbour from a point a short way north of B on Figure 25. The track (C) is overlain on its left by the barbican (the long walled structure containing a dog) that protected the arched gate to the 13th-century Lower Ward and it is also cut by the upper end of the Great Ditch (D).

This early age of the zigzag track is confirmed by observation that the track's western screening earthwork was cut away in the creation of the early 13th-century castle's barbican, which clearly overlies it (see Figs 26 and 27). Furthermore, and most conclusively, the track is entirely cut away by and is thus post-dated by the western uppermost end of the Great Ditch (Fig 27).

The Great Ditch, or the uppermost part of it at least, is therefore not as early as suggested by Prof Charles Thomas (1993, 58-9) and by Prof Christopher Morris's team, whose work on reopening Raleigh Radford's 1955 trench known as Site T produced charcoal from basal silts. Several samples were subjected to radiocarbon dating and all produced post-Roman or slightly earlier dates (Barrowman *et al* 2007, 297-8) and thus 'demonstrated unequivocally that [it] dates from the fifth to seventh centuries' (*ibid*, xiv). Thomas, who had also established that the Great Ditch was of that period, had wondered whether it might have been re-cut in the later medieval period, to make its present massive dimensions of c 10m wide and 5m deep (1993, 58-9). As well as slicing through the trackway, the ditch's slightly angled upper end appears to have been shaped to closely follow and thus strengthen the defensive line of the barbican.

The great Ditch has a form, broadly 'U' shaped but with a steeper southern side, that is in part geologically determined, utilising a natural fault line, and in part artificially created, with its sides and floor cut into the bedrock (Barrowman *et al* 2007, 162-171). No mention is made by either Thomas or Morris of the significance of a pronounced kink halfway along the line of the Great Ditch's southern side (see Fig 27). To its east the south side of the Great Ditch was cut less steeply than to the west as is visible in numerous published photographs (including Thomas 1993, Plate 6 and Barrowman *et al* 2007, figs 91 and 94). This kink is shown on the RCHME survey (but the zigzag track is not). If earlier workers had considered the antiquity of the zigzag track they would have noticed that the kink in the Great Ditch appears to have been determined by the need to accommodate the curving cut made for the angle between the second and third zigs (see Fig 27). The zigzag track is therefore essentially contemporary with the Great Ditch and earlier than parts of it.

A trench dug across the highest stretch of the zigzag trackway by Raleigh Radford in 1938-9 was re-examined by Prof Christopher Morris in 1999. It was named both the 'Small Ditch' and the 'Little Ditch' (Barrowman *et al* 2007, 9, 149), but the section through it is like that of a hollow-way, with shallow slopes on either side of a 1.2m wide level track bed, similar in scale to that of the zigzag track recorded further downhill (Barrowman *et al* 2007, fig 89). The hollow-way (or Little Ditch) is not parallel with the barbican's low wall, as stated in the excavation report (Barrowman *et al* 2007, 155), but, being slighted by it, is at an acute angle to it (around 8 degrees) (see Figs 26 and 27).

The barbican is itself secondary to the Lower Ward of the Castle and it is noticeable that the side walls of the arched gateway to the court are clearly aligned not along it, but instead on the topmost stretch of the zigzag track. The castle's principal entrance was therefore aligned on the track to the sea and not the track to inland Cornwall, which approaches from the south. This explains why the bank that had originally run beside the zigzag track's west side appears to have been shifted, over its last 20m, to create the rather amorphous mound on its east side. The zigzag track had previously, or originally, taken a line that had run alongside the southern mainland track, but now had to veer slightly westwards to join that track's line in order to pass through the narrower passage formed by the arched gateway. A short while later the barbican was constructed, attached to the gateway to the Lower Ward. This closed off the link between the castle and the zigzag track and shifted the emphasis to the track from the south, which more directly linked Tintagel Castle with inland Cornwall. It is possible that this shift is to be linked chronologically with Earl Richard's substantial investment in the castle that was his Cornish administrative base, Launceston.

The northern two-thirds of this topmost stretch of the zigzag track was therefore made redundant by the creation of the Barbican and was then made impassable by being cut by the Great Ditch which was brought further uphill so that its top end ran immediately outside the barbican wall. A second narrow passage, 2m wide, was forced through the zigzag track's western earthwork immediately to the south-east of the barbican ('C' on Fig 25) to allow those leaving the castle to continue to use the remainder of the zigzag track to reach the Haven, but this and the cut-through at

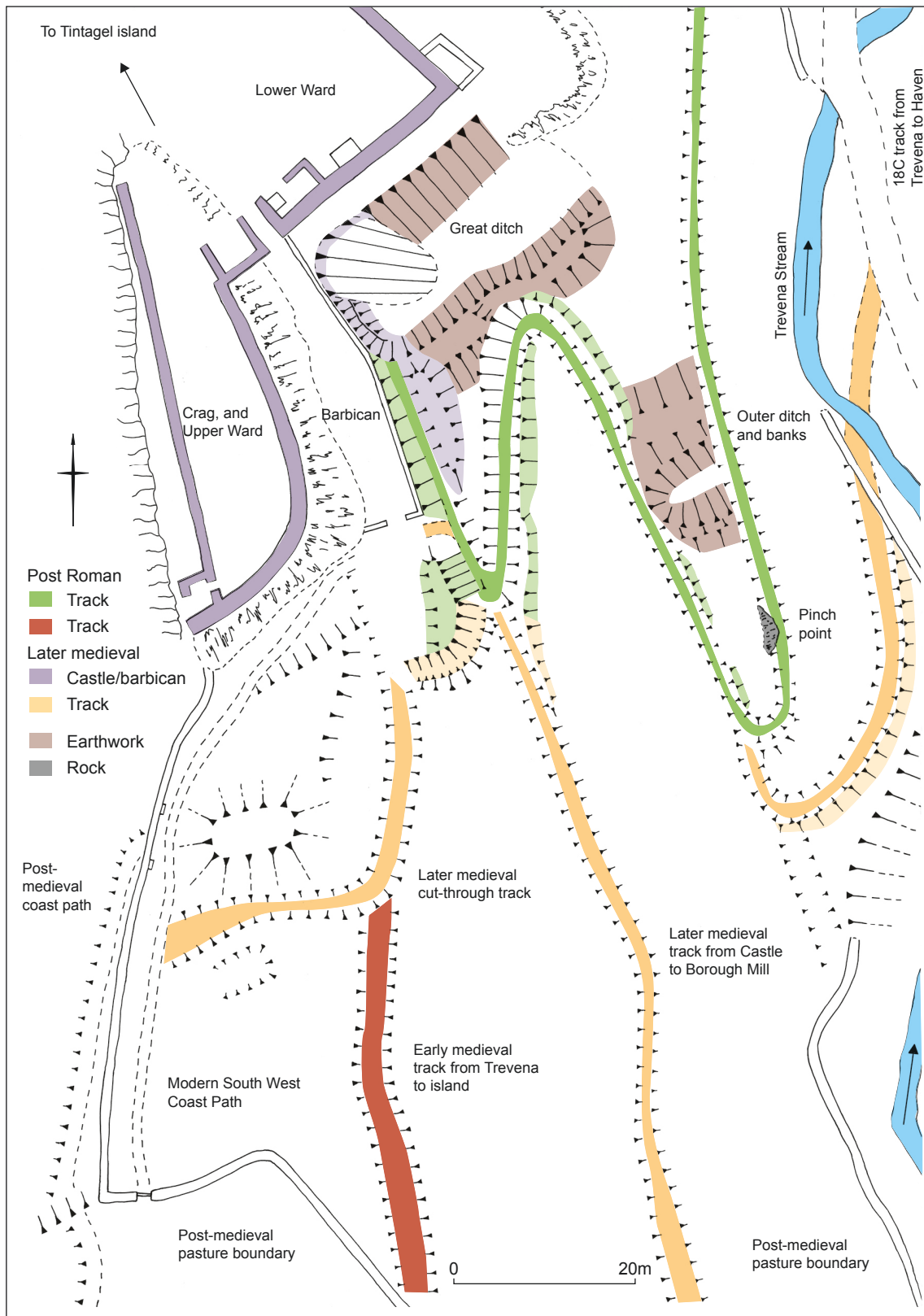


Figure 27: Interpretation of the earthworks south of Tintagel Castle (Figure 21), emphasising the post-Roman and later medieval elements, the former being emphasised further in Figure 29.

the southern end of the topmost zig were awkward twisting links, clearly secondary arrangements. Having no further purpose, the track's northern stretch, the so-called Little Ditch, became partly filled with tumble and rubbish; and artefacts in these fills are, as would be expected, from the post-medieval period (Barrowman *et al* 2007, 159-161), the trackway having been kept clear in earlier periods through continued use.

Prof Christopher Morris' team may have been poorly served when interpreting this feature by using in preference to an analytical earthwork survey a contour survey and a 3D terrain model (Barrowman *et al* 2007, figs 82 and 83), both of which show chronological and functional relationships between features less clearly. They believed the Little Ditch was associated with the later medieval castle's barbican, termed by them a 'curtain wall', rather than being cut by it and thus earlier than it, and thought the Little Ditch 'leads into' the Great Ditch, but gave no reason, defensive or functional, why its makers should have made it so (*ibid*, 156). Professor Thomas believed that his suggestion that an early medieval Great Ditch could have been deepened and widened in the later medieval period 'would be extremely difficult to show' (1993, 59), but examination of the zigzag trackway and its relationships to the ditch has provided convincing evidence of such a process at the upper, castle end of the Ditch.

The final stretch of the zigzag track was aligned on the passage to the Island that ran east of the crag and from there, having converged and merged with the other early medieval hollow-way whose line was later fossilised in that of the long narrow barbican, would have continued down the gently sloping ground now contained within the Lower Ward to the narrow isthmus between island and mainland, probably formerly a ride-able neck (or throat, given the place's name, see below). The point where the two tracks merged is now unclear (but may be visible in any geophysical survey) although projection of their surviving lines (and levels) suggests that it was close to where the Lower Ward's southern gate (wide enough for just a single track, not two) was later built.

Before pursuing the implications of this analysis of the zigzag track further, attention should be given to the hollow-way whose northern end was enclosed by the barbican. An early lane from Trevena (and from Bossiney beyond) crosses the stream more than 100m south-east of Borough Mill and climbs to run along the crest of the western side of the valley before curving westwards on to the common grazing land on what is now called Glebe Cliff (see Fig 20). Those using it may have also headed for the early post-Roman Christian complex amidst which Tintagel church was later created (for which see Nowakowski and Thomas 1991; Thomas 1993, 64-6). This track is around 2.5m wide, with an uneven bedrock floor in which there is no sign of the wagon ruts familiar from Cornwall's old roads. It was built wide enough for wagons, but was mainly used by foot traffic: people, flocks and herds, packhorses or donkeys, and horse riders, though it is probably also along this track that the carts of fuel brought to cast lead in 1343 were pulled. It runs along a sloping bench as it climbs the valley side, its inner side cut as deep as 3.0m in places, and on the shallow-soiled cliff pastures is a 0.6m deep hollow-way, again with an uneven bedrock floor. Addressing this track's curve at an obtuse angle, and climbing *c* 0.5m onto its earthwork, is another later track, the one that runs for *c* 250m quite directly north-north-west along a gentle curve that follows the crest of the valley side,

towards Tintagel Island. As noted, at the eastern foot of the crag the gate of the later medieval castle's Lower Ward was built across this track, its barbican, a 30m long narrow walled enclosure now fossilising its line.

This lane via Trevena was the principal routeway linking inland north Cornwall to the post-Roman 'citadel' complex on the Island. It is the track, a little under 3m wide, excavated in Trenches T03 (a) and T03 (b) by Raleigh Radford in 1938-9 and by Professor Christopher Morris's team in 1999.

This Trevena hollow-way was one strand (with the zigzag track the other) of the routeway that led to what Geoffrey of Monmouth in his 12th-century pseudo-historical account had as the entrance to the *oppidum* (literally the defended town) of Tintagel. This was reached '*nisi quem angusta rupes praebeat*' 'through a straight [i.e. narrow, from *angusta*] rock, which three men shall be able to defend against the whole power of the kingdom' (Monmouth 1136; Wilkinson 1871, 227). Such was how it was described by Ulfín de Ricaradoch, confidant of Uther Pendragon, the king who wished to reach and obtain for his pleasure Igera, wife of Gorlois, the Duke of Cornwall, ensconced for her safety from the attentions of Uther on

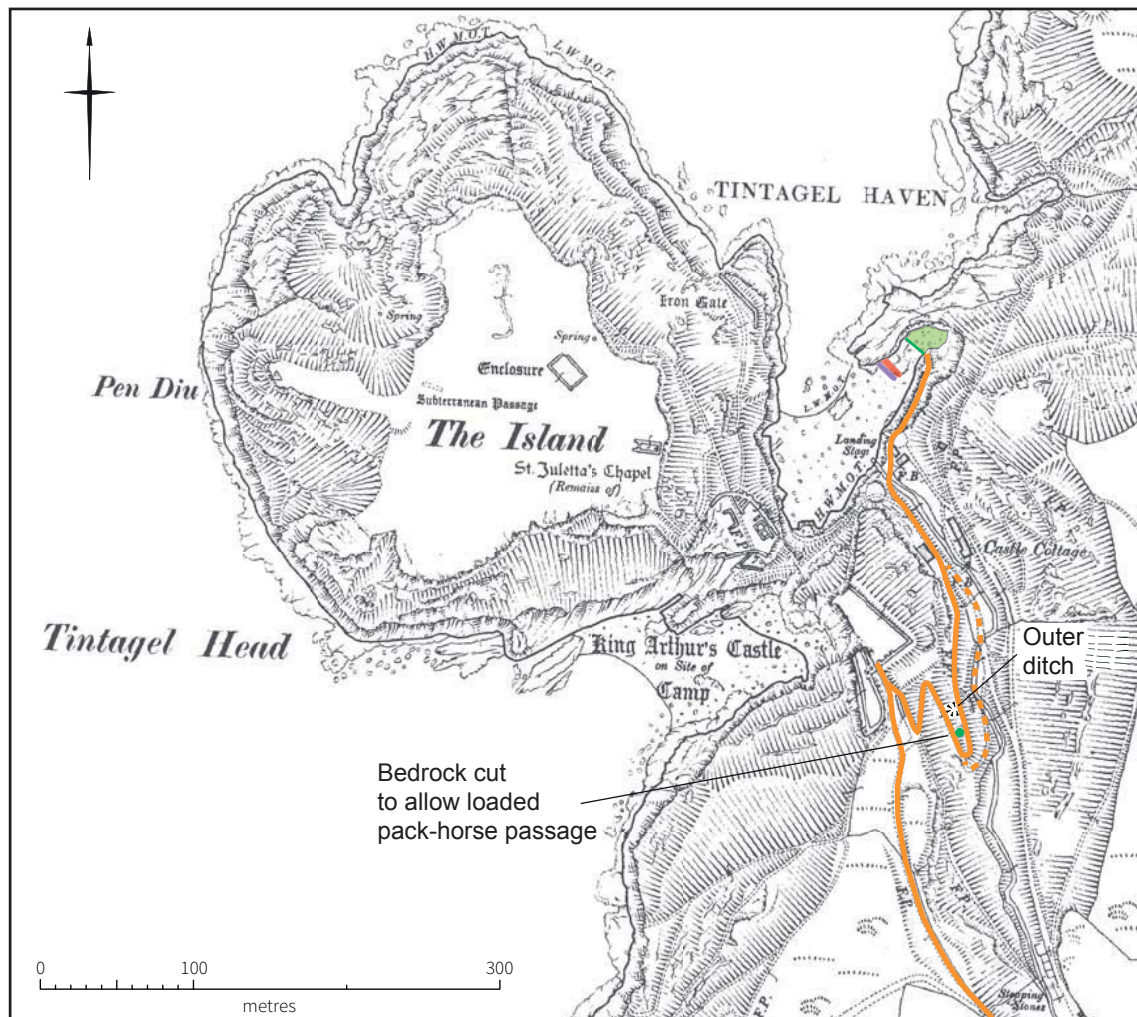


Figure 28: Main tracks linking Tintagel Haven to the Castle and Island and to inland Cornwall (see Figures 21, 27 and 29 for details).

the island. Professor Thomas argued that such is also how the access to the Island 'oppidum', may well have actually been, and that Geoffrey may even have been there to see it, around a century before Earl Richard built his castle (Thomas 1993, 24-5). Thomas thought that Geoffrey of Monmouth's 'narrow rock' referred to the gap between the Great Ditch and the crag on which Earl Richard later built the Upper Ward of his castle, but an alternative might be a narrow edge-like passage across the rocky isthmus linking island and mainland (that has since partly fallen into the sea), the probable source of the place's Cornish name: *din* 'fort' and **tagell*, 'throat, constriction' (Padel 1985, 84, 214). In any case the recent examination of the zigzag track shows that the gap between the Great Ditch and the crag was wider than Thomas described, by at least 2.5m, not narrower as he suggested (1993, 24).

As noted, the mainland route to the post-Roman complex is attached to that running from Trevena to the cliff top commons, an important resource for farmers from later prehistoric times (Figs 20 and 28). Overland routes used by those overseeing and operating activities at the 'citadel' can be seen therefore to have been inserted into long established local patterns of highways and byways. A closer inspection of Cornwall's longer distance routeways ought to also reveal patterns of early horse highways, whose lines were carefully designed or adjusted to be as direct as possible while ensuring that the going for horses was easy, to facilitate fast riding and thus efficient movement of mounted soldiers and transmission of messages between places like Tintagel and other nodes of administration and power (Fleming 2010; 2011). Professor Thomas tentatively sketched from an itinerary in the early 8th-century Ravenna Cosmography the line of a Roman-period long distance route from Devon that crossed the upper Tamar at a place named in the Cosmography *Tamara* and skirted the north side of Bodmin Moor and passed close to Tintagel on its way to the Camel estuary (1993, 82-4, fig 66). Thomas thought Tintagel itself might have been mentioned as the place called *Purocoronavis* or *Durocornovio*, in which the *duro* element means 'town' and the second part 'of the Cornovii' (ibid, 84). The hollow-ways from Trevena to the cliffs and then the one attached to that which ran to the Island may have been linked to such a long-distance route.

Recent discussion of the 'honorific pillars' at Tintagel churchyard and at Trethevey, two miles east of Tintagel, once known as Roman milestones, has downplayed their role in marking long-distance roads (Preston-Jones 2011, 32-5). However, a strong line (roads, lanes, tracks and primary hedge lines, with several stretches later reused as parish boundaries) which cuts across few or no other earlier lines, runs determinedly from just east of Trethevey across north Cornwall to North Tamarton (where Charles Thomas suggested *Tamara* may have lain) via such prominent inherited prehistoric landmarks as Tich Barrow and Warbstow Bury (large hilltop barrow and north Cornwall's most substantial Iron Age hillfort respectively) (Catherine Parkes, pers. comm.). This was joined on the high ground near Hendraburnick, immediately north of the headwaters of the River Camel, by another ancient line that ran westward to Bossiney and from there the track described above ran on to Tintagel. This suggests that Roman and post-Roman interest in the Tintagel area came, at least in part, from the direction of modern Devon, then perhaps part of the larger political entity known as Dumnonia, of which Cornwall was a significant part.

THE ZIGZAG TRACK IN A POST-ROMAN PORT OF TRADE

Returning to the Tintagel complex, it is of particular interest when interpreting the two earliest routeways, the zigzag track and the one from Trevena, that effort was taken to ensure that they were kept separate: by the substantial western earthwork alongside the uppermost stretch of the zigzag track and by the beds of the two tracks apparently being kept at different levels as they approached the southern entrance to the post-Roman complex (Fig 29). There seems to be no reason why people capable of engineering the zigzag routeway could not have brought it a few more metres uphill and merged the tracks at the south-east corner of the crag; instead they appear to have kept them apart until they were both north of the line of the earlier form of the Great Ditch, safely within the 'citadel' or fortified town. This careful separation was presumably due to each early track having a specific function, each serving the needs of a different set of users. One linked the post-Roman complex with the country and people to its south and east – the lands of Cornwall and Dumnonia (of which they were apparently part). The other linked it with the Haven, the sea and the lands and peoples beyond.

The examination of the zigzag track (above) has suggested that it seems to have been carefully designed to be under the control of those in the Post-Roman 'citadel' or 'town'. The lowest stretch was deliberately run along a contour that took it to the small rocky outcrop that was transformed into a pinch-point that would serve well as a form of check-point: it could have been established on a different lower line that avoided this, but was not. It was provided with three sunken sightlines to it from the crag and from the area of the gateway, the first two excavated with considerable labour. The sightlines along the Great Ditch and the newly recognised outer ditch would have required less work (as they would have needed to be less deep) if the sighting down them was from the top of the 13th-century castle's Upper Ward whose walls exceed 4m in height. That the ditches were dug as deeply as they were suggests that the sighting lines pre-date the castle and so are probably post-Roman, perhaps used from an earlier defended structure, perhaps the 'sentry point or manned lookout', suggested by Charles Thomas' examination of the lowest courses of the Upper Ward's walling (1993, 90, fig 50). Engineering of the zigzag track and provision of downhill banks made travellers both safe from slips on a dangerously steep slope, but also kept them firmly fixed on the only feasible route up from the Haven. The coincidence of the kink in the south side of the Great Ditch with the zigzag track indicates that the two may be regarded as coeval, part of the one design.

To the sophisticated design of the approach itself must be added the selection of the site of the whole Tintagel complex, which provided an almost uniquely perfect set of conditions for those wishing to establish on the northern coast of the south-western peninsula of Britain a post-Roman 'port of trade'. These were places regarded as politically neutral by all users (even if in fact they were not neutral, being under the control of either the external traders or the native ones), where trade could be overseen and administered and where the security of traders (native and foreign) and their valuable goods could be guaranteed. Because they had to be recognised as ports of trade by foreigners unfamiliar with local topography they were normally highly distinctive places, such as almost-islands (Polanyi 1963; Hodges 1978).

The lower Trevena valley is largely made secure by nature, the strong diagonal rocky ridges to the west of the mouth of Trevena's stream and on the slopes east of the river (east of the mouth of the stream and next to the site of Borough Mill) ensured that the only reasonable way that those who landed in the Haven could make safe land was via the zigzag track, itself most likely reached by a rock-cut track carved into the south-eastern cliffs of the cove.

The two trackways making for the citadel converged precisely on the great Ditch, not out of coincidence or convenience, but because this defensible line demarcated the outer edge of the place that was the politically neutral port of trade. This included the great crag and the slopes north and east of it on the mainland and the entire Island, the two zones whose soils archaeologists have demonstrated are clogged with buried debris of post-Roman Mediterranean amphorae and pots, containers of wine and oil and platters, and also glass, 'fragments from drinking vessels' (Thomas 1993, 93), the archaeologically most visible of the goods the foreign traders brought. The Haven and the zigzag track may therefore be regarded as elements of the port of trade.

Professor Thomas suggested that the nearly vertical cliff immediately below the 'Iron Gate' on the east side of the Island 'is in fact a natural quay' allowing vessels to tuck in tightly and land people and goods (Thomas 1993, 41-44). On rocks near here he noted two square mooring-post sockets identical to the Tudor harbour's bollards (ibid, fig 32; Bowden and Jamieson 2016, figs 20 and 21), and 'a dozen or so ancient, worn rock-cut steps' down to a 'slippery shelf ... and remains of an undated masonry wall' (ibid, 43). Sir Richard Grenville himself confirmed that ships could ride the waters directly off the Iron Gate and could land men at it (see Fig 17). Thomas proposed that post-Roman material was also unloaded here, and Carl Thorpe has recently recorded an apparently pre-castle track running down the slopes to such a landing place (2007; 2013). There is no reason to challenge the suggestion that some post-Roman ships were moored here. However, as the trackways to the south of Tintagel had not then been examined, Prof Thomas was unaware when he wrote that considerable effort had also been put into linking by the cleverly designed and substantially engineered zigzag trackway the island and the Haven. The latter may have been the place where post-Roman ships most often landed (probably by beaching). The scale of the investment in this set-up also casts doubt on a minimalist interpretation that proposed that only a handful of ships ever brought east Mediterranean wares to Tintagel (Thomas 1993, 85, 96).

Instead the field archaeology of buildings, defences and trackways indicates a significant port of trade existed. This may have involved occasional occupation or use – as shelters, stores or workshops – of the roughly one hundred small sub-rectangular buildings recorded on Tintagel Island, apparently of the post-Roman period. These are the subject of ongoing investigation by excavation by the Cornwall Archaeological Unit. Professor Thomas may have been right to assert that the conditions on this most exposed of Cornish promontories precluded permanent settlement (Thomas 1993) though structures that appear to be corn-drying barns and a possible longhouse in the north-eastern quarter hint at the existence of a later medieval farming settlement (see Bowden and Jamieson 2016) and suggest that longer-term, even permanent settlement was not absolutely impossible, and there are

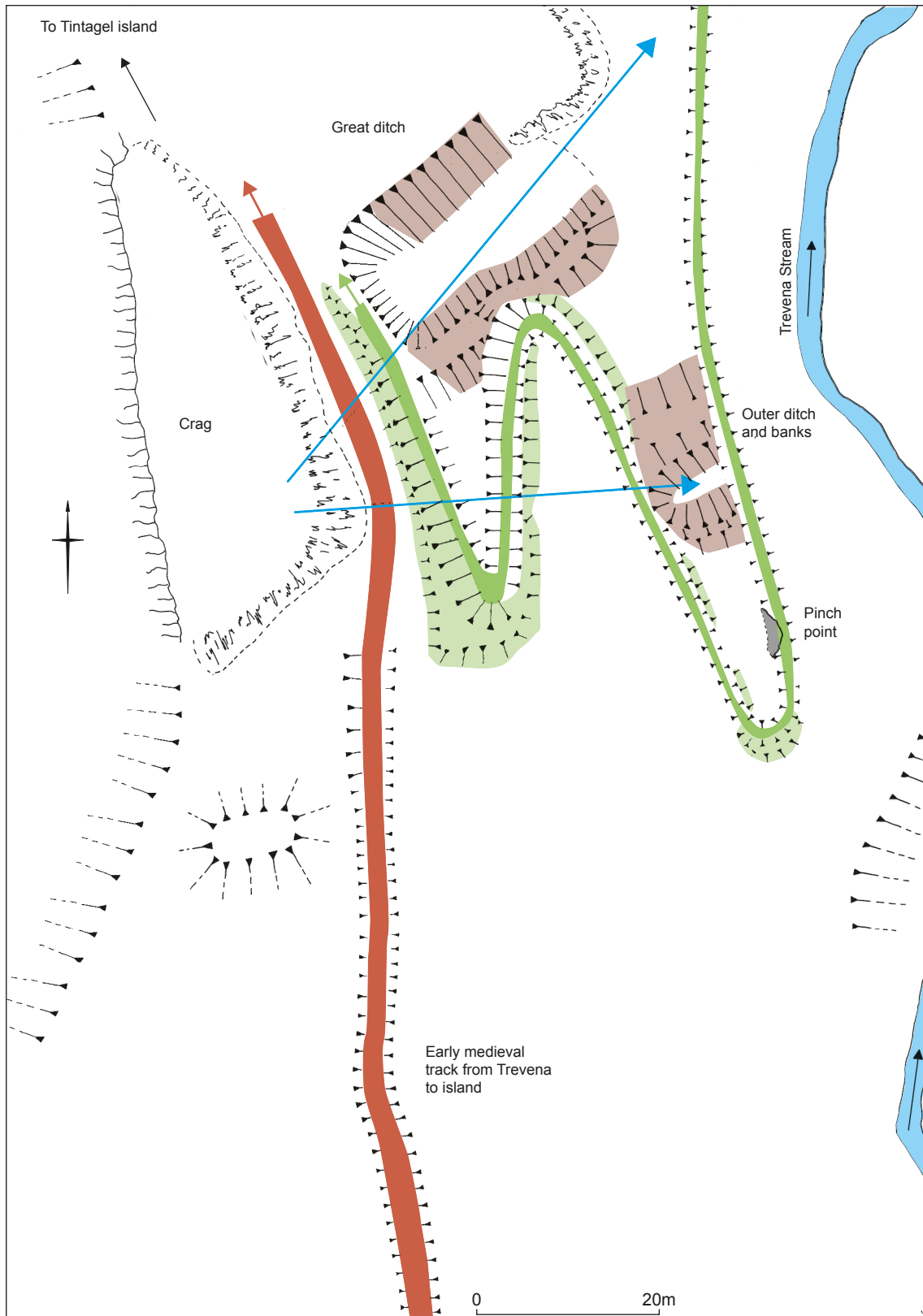


Figure 29: Post-Roman arrangements to the south of the later site of Tintagel Castle showing how the zigzag track from the harbour (green), the ridgeway from Trevena (red) and the Great and Outer Ditches worked together to form a controlled approach to the citadel on the mainland crag and on the island. Lines of sight from the crag down to the lowest stretch of the zigzag track are also shown.



Figure 30: The Post-Roman port of trade at Tintagel comprised the Island (with scores of sub-rectangular structures), Haven, zigzag track, Great and Outer Ditches and the crag later reused for the Upper Ward of Tintagel Castle, as delineated in red in this aerial photo. (Photo by Steve Hartgroves, Cornwall and Scilly Historic Environment Record, F77-037, 8th August 2007; copyright reserved.)

numerous medieval farms set in unlikely looking clifftop locations along the north Cornish coast. It may be then that at least one or two people stayed on the Island throughout the year.

The distribution of the sub-rectangular buildings, as confirmed by the re-examination of the RCHME survey (*ibid*), includes few indications of overlapping structures, as if most were capable of being occupied or used at the same time, indicating a large complex with potentially many hundreds of people being here at certain times. It has been considered ‘proto-urban’ and similar in form and scale (as well as date) to Monemvasia in Lakonia, Greece (Turner 2006, 56-59). And Ken Dark has gone so far as to suggest that there, ‘there is no logical reason to avoid describing it [Tintagel] as a ‘Late Antique town’ – only modern preconception says that such places are unimaginable in Britain’ (Dark 2014). Indeed the earliest account of Tintagel, pseudo-historical though Geoffrey of Monmouth’s story is, uses a term, *oppidum*, expressive of a defended town and it has been noted that Professor Thomas suggested that Tintagel may have been the site of the ‘town’ of Purocornovia (above). It was also noted above, again originally by Professor Thomas, that Geoffrey of Monmouth’s description suggested that he may have visited the place, seen the visible evidence, and heard local tales passed down for six or seven hundred years. But an interpretive model for post-Roman Tintagel might more easily accommodate an occasional town, not a permanent one.



Figure 31: St Michael's Mount, a possible western equivalent of the port of trade identified at Tintagel. It is half-tide with the sea covering the causeway (beyond Chapel Rock) that links the island to the mainland.

Before suggesting what that interpretation might be, it should be recalled that Tintagel is *almost* unique in being the perfect place in Cornwall for a port of trade, because there is a second one, slightly different in its topographical potential, but also highly distinctive in its form and equally easily secured (by tidal water and a narrow causeway as much as by earthworks, though traces of the latter do survive) – St Michael's Mount (Herring 1993, 37, 62; Fig 31). The Mount, subjected to much less archaeological attention than Tintagel, has recently yielded several sherds of post-Roman amphorae (Herring *et al* 2000, 95-6, 103, 120-2).

Both Tintagel and the Mount have been proposed as post-Roman citadels, defended courts of kings (Thomas 1988; 1993; Herring 1993, 37, 62; Herring *et al* 2000, 120-122). For Charles Thomas, Tintagel 'served as a stronghold for the post-Roman kings of Dumnonia' and 'was used only seasonally or periodically, as part of an irregular sequence of visitations and/or in connection with particular dynastic happenings'. Thomas suggested that 'goods required for foreign trade were brought [to Tintagel] under a system of enforced obligations' (Thomas 1993, 87). He regarded the king(s) of Dumnonia as controlling the place and its people, using the latter's labour to excavate Tintagel's Great Ditch and to construct the buildings on its Island, and centralising wealth (as displayed through the imported amphorae and their contents). He did so partly out of respect for the way that Geoffrey of Monmouth appears in the early 12th century to have envisioned such powerful kings when he reworked what

appear to have been local stories about the place. But Geoffrey and others, including those speaking and writing of King Mark and Tristan and Iseult, transposed essentially romantic later medieval notions of kings back into the very early medieval period. Earlier means of administration and maintenance of safe access to common resources, those of later prehistoric and Romano-Cornish times, and other means of trading, such as those of broadly contemporary European *emporia*, the ports of trade, provide alternative models for arrangements.

Late prehistoric and early medieval Cornwall can be interpreted as a 'common property regime' (for which see Ostrom 1990; Oosthuizen 2013; Herring 2016, 193-5). In this, collective institutions like early medieval Cornwall's 'multiple estates' of *tre-lands* (Herring 2011, 263-9) would have been coupled with closely known custom to maintain equity among holders of rights to common property. This property is most obvious in the extensive rough pastures of the uplands and the cliffs, in the subdivided field systems, and in the tracks that took households' livestock through shared fields to the pastures (as for example the track from Trevena to the Glebe Cliff grazings). It may also be expected to have included the common resources of the sea and coast. The peaceful maintenance and administration of such regimes was by groupings of local people, predecessors of the later medieval tithings, gathered together into larger bodies at the level of the Hundred, but with an ultimate authority, in the form of a king, who was essential to the running of such a regime, as all depended upon the king for upholding through gatherings at courts the rules and custom of the commons (Oosthuizen 2013; Herring 2016, 198).

The security that foreign (and local) traders required was, as noted, provided at Tintagel via the closely controlled way from the Haven to the citadel, and its neutral zone was marked by the Great Ditch. But kings such as those who oversaw common property regimes would also be able to provide a second form of security, a peaceful stable population and a means of exercising authority over it and of providing protection against threats to it. This could be extended to guaranteeing the safety of foreign traders within ports of trade such as Tintagel, the Mount and possibly also Looe Island in Cornwall, and Bantham Ham, a low promontory in the mouth of the River Avon estuary on the south Devon coast (adjacent to a third 'almost-island' in Burgh Island) that has produced large quantities of post-Roman material associated with substantial buildings (Reed *et al* 2011).

Rather than falling 'prey to common sense' (cf Thomas 1993, 86), the proposition that a port of trade, and an occasional town, existed at Tintagel would fit quite comfortably with the evidence so far gathered. It would also fit with current understanding of a society and economy that was built around occasional gatherings at key places at predictable times of the year, primarily to administer the rules and customs of the common property regime. Such moments would be known across several countries if they shared a common calendar of principal feasting times, as provided by Christianity in post-Roman Dumnonia and Mediterranean and western Europe, or inherited from more pagan 'festive calendars' (Hutton 2013, 225) in the preceding later prehistoric and Romano-Cornish periods. Then people may have become accustomed to gathering at hillforts and cliff castles, for a variety of reasons that included exchange (of goods, news and gossip), resolving issues related to the

commons, various forms of ritual and ceremony, acquiring partners and enjoying each other's company through, among other things, music, drinking and feasting (Herring 1994).

Ports of trade may then be signals of increasing civilisation of the kind associated with the development of a proto-state, in this case Dumnonia, Cornwall, or a part of Cornwall, perhaps that covered by *pagus Tricurius*, recorded as early as the 7th century (Thomas 1964b, 75), which was probably the area covering the three northern Hundreds, Trigg, Lesnewth and Stratton. (See Herring 2016, 198 for the suggestion of another small kingdom in the western half of Cornwall in which sat that other suggested gathering place St Michael's Mount.)

Diodorus Siculus caught this sense of civilisation (and aspects of a port of trade) more than half a millennium earlier in his famous description of the tin-trading port(s) known as *Ictis* (of which one was probably St Michael's Mount and another possibly Tintagel). 'The inhabitants of that part of Britain which is called Belerion are very fond of strangers and from their intercourse with foreign merchants are civilized in their manner of life' (Hencken 1932, 171). They carry ingots to *Ictis*; 'for at the time of ebb-tide the space between this island and the mainland becomes dry and they can take the tin in large quantities over to the island in their wagons. And a peculiar thing happens in the case of the neighbouring islands which lie between Europe and Britain, for at flood-tide the passages between them and the mainland run full and they have the appearance of islands, but at ebb-tide the sea recedes and dry a large space, and at that time they look like peninsulas. On the island of *Ictis* the merchants purchase the tin of the natives and carry it from there across the Strait of Galatia or Gaul' and then on horse back to the mouth of the Rhone (near modern Marseilles) (Oldfather 1939). Indications of Roman period activity on St Michael's Mount (Herring *et al* 2000, 119-120) are matched at Tintagel with the recent identification of several hundred sherds of mid and late-Roman locally made pottery, plus a hoard of 4th-century coins (Thomas 1993, 84). Both the Mount and Tintagel have late 3rd and early 4th-century 'honorific pillars', formerly known as 'milestones' in their vicinity – at Breage and St Hilary (both on what appear to be long-established routeways that passed close to the Mount), and at Tintagel church and Trethevy. Ann Preston-Jones, writing about Tintagel in a recent review of early medieval Cornwall, noted that the 'newly discovered evidence of Roman activity surely forms the backdrop to the remarkable post-Roman activity' (2011b, 269).

If post-Roman kings did operate in the way suggested by Prof Charles Thomas (see above), or as in roughly contemporary Wales (Davies 1982), then they and their household would visit their several courts in turn, expecting hospitality on each occasion, and providing in return reasonable and just decision-making, grounded on established custom. Professor Sam Turner has cautioned against regarding Tintagel as wholly secular in the wake of the widely accepted dismantlement of Ralegh Radford's monastery interpretation, recognising that Christianity helped cement relations between citizens and a leader (Turner 2006, 58-9). But it is most likely that the king gained his reputation through making good and fair decisions about the commons, the resources that were used every day by most of the community. He may have maintained his reputation through his valour, through legitimising and

maintaining the Christian faith, through providing good entertainment, and through the impressiveness of his foreign contacts as exemplified by the foci of exoticism that were the ports of trade. Archaeological evidence indicates that ostentatious feasting may have also been involved, as suggested from material collected in recent excavations at Bantham (Reed *et al* 2011, 132) and Mothecombe, in the mouth of another south Devon estuary (Agate *et al* 2012, 382), and as was recorded in the other source of Prof Thomas' vision of the Cornish king, the slightly later accounts of Welsh kings, in which the drinking of wine figured large (eg Davies 1982, 68-70). Tintagel, as well as being an occasional town and a port of trade operating at designated dates, may also have been the greatest of all the western British feasting places so far identified, hence the liberal strewing over its surfaces of broken amphorae, dishes and glasses.

Ports of trade, kings and the means to administer a common property regime all indicate that Roman period and post-Roman Dumnonia, including Cornwall, had a sophisticated and stable society, as it also had in later medieval times, when Earl Richard responded to stories passed down from such times.

This exploration of the ways of reaching Tintagel commenced with the remnants of a Tudor harbour but stepped from there to a realisation that the trackways to that harbour also provided interesting new insights into the Roman and post-Roman arrangements at Tintagel. They link a great historic hero (Sir Richard Grenville) with post-Roman people, perhaps including kings or dukes, now of course un-nameable by historians and archaeologists, but once named by local storytellers – King Mark and King Arthur, and Gorlois, the Duke of Cornwall (see Bowden and Jamieson 2016). Those post-Roman people were capable of creating a remarkable place where remarkable things were done, not least the maintenance of a civilised intercourse with foreign people.

THE FUTURE

The archaeological remains of the harbour, the quay, wharf, steps and bollard sockets and of the early trackways form a significant complex that contribute to understanding of Tintagel. Those with an interest will include the managers, curators and historians of the English Heritage Guardianship site (through which the trackways pass), the National Trust's Tintagel property that includes the Black Rock peninsula on the north-western side of the harbour, and the Duchy of Cornwall who own the inter-tidal zone in which the quay and wharf lie.

Some of the remains described and discussed here are within areas that members of the public visit, including the beach (quay, wharf and hullies) and the steep slopes to the south-east of the castle where the zigzag track is now a registered footpath. Those who use this track may be interested to learn how it seems to have been the main way from the Tudor harbour, was also part of the infrastructure of the 13th-century castle and seems to have pre-dated it and have been a significant element of the post-Roman citadel and port of trade.

The steps and bollards are on the uneven ground of Black Rock where there are significant drops to rocks, so it may be problematic to encourage visitors to examine these, and the rock-cut track on the east of the harbour has been partially closed to the public, presumably because of the hazards of crossing uneven terrain that again includes significant drops. The remains on the beach are vulnerable to continued erosion by the sea (as indicated by a postcard of the mid-20th century, Photochrom



Figure 32: A member of the public taking a photograph of the remnants of the quay at Tintagel.

9109, which shows the outer face visibly longer than the stretch which survives), but it seems unlikely that they can be secured and may be best left as they are. Many visitors notice the remnants of the quay, photograph them and presumably wonder what they are (Fig 32); it may be reasonable to include mention of the remains of the harbour, the trackways, the hullies (Fig 33) and the early port of trade in future revisions of English Heritage and National Trust interpretative literature about Tintagel and this much-visited part of the Cornish coast.

The zigzag track has been resurfaced with dense gravel in recent times; this has been sensitively done with a few small patches of bedrock left uncovered. Now that the significance of the track is better understood, care should be taken not to undertake works that will affect the width of the track's bed, any original surfacing that may survive beneath the recent gravel, and the banks that run alongside the track in many places. The pinch-point should be retained even though it still creates an awkward passage.

No active management, such as through sheep or goat grazing, takes place on the steep slopes of the valley sides and they have become overgrown with brambles, thorn etc, making exploration difficult, away from the established tracks. It seems that the reintroduction of grazing, which would have taken place here until the early decades of the 20th century, would be difficult to achieve, especially given the number of dogs that are brought to Tintagel by visitors. Besides, the vegetation reduces health and safety issues by keeping explorers away from drops and other hazards.

In terms of statutory protection, the whole of Tintagel Island and all the built parts of the later medieval castle on the mainland are covered by scheduling as List Entry Number 1014793. This extends southwards to include the valley-crest hollow-way, but only covers the top two zigs and the northern half of the lowest zig of the zigzag track. It may be suggested that Historic England Listing Group consider assessing whether the remainder of the zigzag track, together with the newly discovered Outer Ditch, might be brought within the scheduled area.

Further research and recording suggested by this study include the following.

- Survey of all the cliff edge and rock-cut features on Black Rock (National Trust) and at the Haven (English Heritage), to better understand the story of the beach and its use in exporting slate and other materials over the last three centuries. This would include recording the rock-cut trackway, all sockets for bollards, all metalwork fixed to surfaces, all buildings, including building platforms, the two hullies (Fig 33). Some of the buildings and structures on the east side of the stream and along the edge of the Haven have previously been recorded (Sturgess 2004).



Figure 33: Smaller eastern example of the two post-medieval hullies cut into bedrock in Tintagel Haven. Live lobsters and crabs caught in pots by local fishermen would have been stored in these, secured in place by wooden lids. Here a narrow bench chiselled for such a lid can be seen immediately above the water level at the far end and a hole drilled for some form of latch is visible near the centre of the left-hand side.

- Detailed measured earthwork survey of the trackways immediately south and east of the Barbican, including the topmost stretch of the zigzag track, the track to the mill, the early track inland towards Trevena and Bossiney. This should include accurate survey of the alignment of the gateway to the Lower Ward, to better demonstrate which routeway it was originally associated with.
- Lidar survey of the whole area from Tintagel Church to the Borough Mill and then down the valley to the Haven, and analytical assessment of all features recorded (Jacqueline A Nowakowski, pers.comm).

- Geophysical survey of the area immediately south and east of the Barbican, to search for signs of any former structures or barriers. If it was feasible to undertake geophysical survey within the Lower Ward of the mainland part of the castle then that could search for any traces of earlier tracks headed for the Island. Much of this area has been paved.
- Should there be works in the area of the tracks, for example in conjunction with the proposed bridge to the Island, then it is suggested that they are preceded by trial trenches to establish what below ground remains would be disturbed and whether these may be sufficiently significant to warrant further examination in advance of any development.

Research on the implications of the possible existence of an early port of trade at Tintagel (and other similar places around the south-western peninsula) might include reviewing how the complex was organised. Can it be assumed that it was wholly in the hands of people based in Cornwall, or Dumnonia? In which case can the lines of early roads help establish where else they had places of trade, courts of administration and places of settlement? Or was it really a 'neutral' place, a place of civilised intercourse between local and foreign traders, and so, in part at least, a form of diplomatic outpost of distant states? If so, what was their interest in Cornwall and Devon? This has usually been assumed to be tin, but how far has that assumption been critically examined? To what extent might the links be political and ideological rather than commercial or economic? There is a tendency to regard the more directly classically derived Mediterranean people as the dominant players in the relationship, but can that be supported either archaeologically or in terms of how we currently see early Cornish society – much more stable and sophisticated than we once did (Herring *et al* 2011).

Is the apparent separation of secular and Christian activity between, respectively, the Island and the cliff-top site of Tintagel Church certain and if so what can we read from that about the church's role in early Cornish society and the ways people saw themselves as actors in a world that was both real and spiritual?

Can we deepen our understanding of Tintagel, and how unusual or representative it is by more closely examining other candidate ports of trade, such as St Michael's Mount, Bantham Ham and perhaps Looe Island?

Turning to the later periods, can the meaning of the realignment of the entrance to the Castle from that of the zigzag track and harbour to the barbican and the ridgeway route into north Cornwall be pursued in contemporary documentation that might indicate changing priorities for Earl Richard or Earl Edmund? Is there more to be found out in state and other records about Sir Richard Grenville's intentions and achievements at Tintagel? Can the date and cause of the loss of his harbour be pinned down more accurately? It is likely that there is more documentation to be found and analysed for the slate industry, the galena mine and the 18th to 20th-century uses of the Haven for importing and exporting materials, and for fishing.

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